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B.S.

Retrospect of 1902

A Year of Conspicuous Automobile Progress. Notable Events and Their Effects. Present Conditions and Future Prospects

THE sport of automobiling and its hardy big brother, the manufacturing industry, approach the new year 1903, each with new high records of growth and prosperity. Retrospect and prospect may for the moment be worth while. It is not so very long ago, as time is reckoned nowadays, that this new and important development in pleasure travel and transportation was fighting its way to a part and place in the practical organization of life. There was nearly everywhere a network of odds against it, and its friends were principally valiant owners and others interested in some phase of the movement which was already casting its shadows before. To-day automobilism as a whole is not only quickened with new life, but more fortunate also in the conditions which surround and support it.

In this gratifying result, 1902 has had an infinitely larger part than any of its predecessors; and it may, indeed, be remembered in after time as the year of all around establishment for the sport. Design and construction, showing their advance in both new and improved types and models; racing and touring, prospered by a multiplication of interest in these directions; the general enlargement of the motor vehicle's legal rights and privileges; new marks with respect to "Endurance," "Reliability," "Service" and the like under test—these factors are naturally the most conspicuous in the summaries of a twelvemonth's progress. But even more important is the increasing satisfaction on the part of the main body

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of owners and users in what is being accomplished day by day, and their equal confidence in what the future holds. This is the unit and standard of the whole matter, and it is eminently sound and encouraging to all concerned.

BROAD LINES OF DEVELOPMENT

Although it remains for the automobile shows of January and February to bring out the separate detail whose sum total will exhibit contemporary advances in design and construction, the general lines of development have been revealing themselves in incidental ways for a six-month. Privileged visitors to the laboratories and factories have kept more or less in touch with the new features, and one by one they have come to light either by announcement of the makers or through incorporation in well forward machines. A closer view of this side is given in the more technical article appearing elsewhere in this issue of THE AUTOMOBILE MAGAZINE.

All 1903 types and models share generously in the benefits which the past year has imparted to the industry. The three established motive powers—gasoline, steam and electricity—naturally retain their relative places in manufacture as in public favor, each broadening and bettering its own special field rather than encroaching upon the domains of the others. Motors show a general all around increase in power and (especially) in durability, serving the important ends of traction capacity and reliability, with ultimate economy of operation for the work required. The light, high speed vertical motor is feeling the increased efficiency and convenience of the horizontal motor for small machines, while in the larger and more powerful types the double and multiple-cylinder vertical motors are establishing themselves more than ever before in satisfactory service. Foreign ideas in form and structure are acknowledged, and to a degree absorbed; but they are not so much copied as improved and Americanized into forms equal or superior to their prototypes.

As a rule, reachless running gears have succeeded the originally general tubular construction, with improved jump spark ignition devices and higher compression for ampler power. Heavier insulation, better cooling devices and more reliable pumps are already at hand, with widespread and unremitting attention to carbureter problems sure to work out in the reasonably near future some important and far-reaching results. These practical improve-

ments, with a gradual but sure approach toward noiseless operation and a growing willingness to depart from the original conception of the "horseless carriage," are characteristics of the new models.

Steam vehicles were especially conspicuous in the "Endurance" and "Reliability" contests of the past summer and fall, showing always a high average of road performance creditable to the type and eminently satisfactory to its friends. This fact has had, perhaps, more to do than any other, in keeping 1902 from going down in history as an out-and-out gasoline year. Fewer changes are visible for the moment, but more are felt to be inevitable, the net result of which will be a nearer approach to the lines and appearance of the hydrocarbon motor. Among these there is a likelihood of bringing the boiler to the front under a hood, where the steam and water gauges may be more easily watched and reached by the operator; the moving of the engine to a place under the front seat, and its attachment to the cross frame of the running gear; more room in the rear and below the line for fuel and water tanks; automatic air and water pumps; regulation fuel control; French running gear and water tube boilers, with condensing coils in front. Very many people have an instinctive preference for this type—in part, traceable to the popularity of the steam engine per se; and its future as a motive power for automobiles is secure.

Within the range of its power supply, the electric vehicle has advanced in popularity and use to a greater extent than in any previous year—a fact more evident in the record of sales made than in the literature and controversies of the period. In the larger centers the home demand for this type of machine steadily increases, especially as a separate addition to the fully equipped garage of people of large means. One who will take the trouble to post himself on the number of electrics to be seen in daily, all-year service on the streets and avenues of the Atlantic seaboard cities, will be surprised at the showing they make. Many of them are luxury's own—particularly the new victorias and extension front broughams. The very qualities of richness and sumptuousness—nowhere brought out with more effect—have given the more expensive electric vehicles an international reputation, and been the means of sending not a few of them into the automobile centers of the old world.

Another year has passed without specific information or actually proven capabilities of the "new" Edison battery. This is to be regretted, not only because any adequate realization of the

famous inventor's hopes would contribute tremendously to the automobile movement as a whole, but also because its appearance would at last enable the trade and interested public to judge its ultimate place as a motive power for road machines. Until that time comes, the electric division of the industry will suffer unduly from a promised but non-present, and all in all, intangible competition.

In the meantime, "almost persuaded," people are waiting less and less for Mr. Edison and his company to make good, and are giving their support to the established and active interests who are turning out machines, if not of ideal, then certainly of known capabilities. Meanwhile, a point-and-point comparison of what "the Wizard" said to our special representative, as published in our July, 1902, number, with what he is reported to have said to others at sundry times, may go far to explain the popular misconception of his progress with the new and to-be revolutionary battery.

It will be put on the market some day, without doubt, and may come to have a large and important part in the future industry and sport. Meanwhile, established electric interests are winning the rewards of their own independent enterprise, and are entitled to the co-operation and support of the automobile public at large. They are working individually and collectively for a wider range of operation, for added attractiveness, convenience and luxury; they are succeeding, and whoever would distance them hereafter in the favor of discerning buyers will have a considerable lead to overcome. It will call, among other things, for considerable time and large expense.

GROWTH OF THE RACING INTEREST

Automobile racing is gradually coming to its own in the United States, with a creditable show of progress during the past year. Handicapped, so far as road events are concerned, by the unsuitableness of our highways, and by the fact that the few available tracks in this country are widely separated and loosely affiliated, the racing spirit has been circumscribed, and the notably successful meetings comparatively few. So far, it has shown itself principally in tournaments held under the auspices of enterprising local automobile organizations, among them the Long Island, Rhode Island, Springfield, Cleveland, Detroit, Chicago and other clubs have sufficiently large membership and adequate track facilities.

In each case, barring bad weather or otherwise unfavorable conditions, local enthusiasm has been mightily aroused, and the sport strengthened accordingly throughout the district within the sphere of its influence. Perhaps the most notable of all 1902 tournaments—all things considered—was that held September 16, at the Glenville track by the Cleveland (Ohio) Automobile Club, where 8,600 people paid an admission fee of $1 each to witness a program of good competitions, and had some new records thrown in for good measure. It served to show conclusively that public support is at hand and waiting for first-class automobile events, and it presages likewise a vast expansion of the sport in this direction.

Already, too, the American owner and operator has come to the point of proving himself as daring and suceessful as any in the world. Even now his name figures largely in the tables of world's track records, and it is only a matter of time when some of the famous road trophies competed for in Great Britain and on the Continent are won and brought to this country. Of Fournier's American track records, only those from 14 to 25 miles, inclusive—and that only in the heavy gasoline class—made at Fort Erie, September 26, 1901, still stand. Alexander Winton, Percy Owen, G. C. Cannon, A. L. Riker, W. C. Baker, S. T. Davis, Jr., and others from the ranks of the home industry monopolize the rest, with Messrs. A. C. Bostwick, David Wolfe Bishop and W. K. Vanderbilt, Jr., from among wealthy patrons of the sport as occasional participants in fast track events. Among our other well-known chauffeurs are Henry Ford, Tom Cooper, H. S. Harkness, Barney Oldfield, W. Wigle and Arthur Gardiner, largely graduates from the cycle game, of whom more will be seen as events multiply and it becomes impossible for the record holders to cover all of the big meetings.

It is altogether probable that another six months will see an effort made on the part of the responsible powers with a view to placing road and track competition on a more permanent and substantial basis. New and novel problems in classification are to be met, a central authority widely recognized and district representatives appointed. Doubtless, also, the amateur-professional question must be threshed over, as it has been everywhere else, to the detriment of every competitive sport. So far automobilism has been blessed in being let alone on that score; though it is felt that the amateur athletic oracles must be growing restless for a

hand in the game. It is too promising a field to go unreaped by privileged guardians!

As soon as practicable, too, one or more sensible racing circuits should be arranged so as to save unnecessary travel and the shipment of competing machines, say, from Providence to Chicago, thence to Detroit, Springfield, Mass.; Cleveland, Ohio; Brighton Beach, N. Y., and the like. Such a program is unfair to the entrant, and must in the end cool his enthusiasm for the chase. He is the backbone of the whole racing division, and deserves a meed of forethought from the opening of the season to its close. To give it to him may double the number of his appearances and correspondingly help the sport.

It is worthy of passing record that most of our American racing has been done with regular stock machines. They have frequently been entered stripped, but more commonly raced as they would be put on the road for everyday use, showing the speed and power possibilities of the same design and construction that is going regularly into the hands of the public. Such a policy is an irresistible appeal to discerning buyers. Then there is the open demonstration of how to handle the different models in close quarters on the track, which is a part of the educational value of the racing end.

Any good machine can go more or less fast if the particular requirements of its type and class be met. But the one that will give a good account of itself in ordinary use on the road or under forced pace on the track if occasion requires, shows a wide range of service. The utmost limit of speed is naturally to be had out of special light and high-powered construction—most of all in one of the "freaks"—built for no other purpose. But instead of going to extremes, the manufacturers will very likely make semi-racers for those wishing them, which the careful owner will put into all around use and with care find satisfaction and reasonably long service in them.

CONTESTS AND TESTS OF THE YEAR

Allied with racing, through the competitive element common to both, the various contests and tests of automobiles came in for a great deal of prominence in 1902. It detracted nothing from these features that they indexed the experimental and formulative period of the industry. We are likewise in the constructive period, and the educational value of these by-products of the sport is beyond easy calculation. Of "Endurance," "Non-Stop" or "Reliabil-

ity" contests there were: (1) Long Island Century, April 26; (2) A. C. A., 100 miles, New York to Southport, Conn., and return, May 30; (3) Kansas City Century, July 18; (4) Chicago A. C., 100 miles, to Waukegan, Ill., and return, August 2; and (5) 500 miles, Reliability Run of the Automobile Club of America, from New York to Boston and return, October 8 to 15.

Of these, the last is easily first, and will be remembered as the outdoor automobile event of the year; and the rest are already numbered among the various easy tasks that served a useful purpose at the time, but left no permanent mark. No such stepping-stones will be needed in 1903, and whatever contests there are—outside of club runs and the like—will aim directly at the accomplishment of some difficult overland trip. The Boston run set a new standard for the future, and proved a sort of convention on wheels for the trade and press, as well as for the automobile enthusiast who participated in or closely watched it.

On two occasions the Automobile Club of America has conducted special local tests in New York City (1), starting and stopping tests, May 2, and (2), side-slipping experiments, November 8. The data gained at these trials is of a wholly practical nature, and has been the subject of wide attention by press and public. Especially has this been the case with the starting and stopping tests, whose conclusions—proving absolutely that for its speed and momentum the automobile is the safest thing on wheels, not even excepting the bicycle—has become the handy reference of those obliged to fight for reasonable speed regulations in their own localities.

Apparently the only kind of contest failing of due attention the past few months, is that important one of hill-climbing. At the local show held at Indianapolis in the early spring there were some interesting indoor trials on raised tracks; but from that time until Thanksgiving Day there was nothing in this line beyond the uphill brushes that enlivened the endurance-reliability runs. In 1903 more heed might profitably be paid to this feature, with vehicles of all sizes and weights, empty and loaded.

As a novel departure THE AUTOMOBILE MAGAZINE respectfully nominates May or June as the time and Nelson Hill, just above Peekskill, N. Y., for the place. There is none more suitable anywhere, and this is within 45 road-miles of New York City. As a special yet reasonable feature, let it be stipulated that each competing vehicle shall be driven up from New York on the morning

of the climb. By this arrangement Nelson Hill will be placed, as it were, on the tourist's regular schedule; and we should see what proportion of starters in the different classes could surmount the most difficult summit on the New York-Albany line. To overcome this is to win one's way into the entire Hudson River Valley.

INCREASED RANGE OF TOURING

At the risk of coining a new definition, it may be said that touring is that side of automobiling which one takes up when he has gained full confidence in himself and his machine, and finds his riding district to be the wide, open world. It is a discovery one ordinarily makes for himself, not another for him. Nineteen hundred and two was one long, well sustained impetus to this practical side of the sport. Not only has the touring spirit taken a firm hold of the automobile public, but new routes have been opened up in considerable numbers and the facilities therefor multiplied in large measure.

To-day practically all of New England, except northern Maine and New Hampshire, above the White Mountains, is fairly accessible to the tourist. Automobiles have crossed the Green and White mountains a number of times; have climbed to the tops of Mounts Greylock and Washington, and skirted the eastern shore as far as Bar Harbor. The Litchfield and Berkshire hills, with their many miles of good roads, are within a comparatively short distance of New York and Boston, and especially convenient to the cities and towns in the Connecticut River Valley; already they have become a very popular middle touring ground.

The Hudson River district is opened up from end to end, with fair approaches to Lakes George and lower Champlain. Central, western and northern New York show discouragingly little improvement from year to year, but all are traveled with more or less success. A much better road system connects Buffalo, Erie, Cleveland, Toledo and Detroit along the Lake Shore, losing in quality again on the final stretch to Chicago. From thence one has much of northern Illinois and southeastern Wisconsin within touring range, the line to Milwaukee along the great Sheridan Road already showing great improvement and promising more.

On the Atlantic seaboard to the South and West, the way is opened up in good shape to Trenton, Philadelphia and Wilmington; less inviting, but still passable to Baltimore and Washington; then practically closed by continuously difficult roads, except in separate districts like the Shenandoah Valley, Virginia, some parts

of western North Carolina, and at special places along the Florida east coast. To enjoy a tour in these sections, the automobile must usually be shipped from north of the Potomac; and an equal restriction hedges about the Southwest, though pioneering trips from New York to Wheeling, W. Va., and from Toledo to Hot Springs, Ark., have already been made, and accounts of same given in THE AUTOMOBILE MAGAZINE. Considerable progress is to be recorded also in southern and central California, tours to Mount Lowe and to the Yosemite having already lost their novelty. In western Oregon and Washington, present progress is naturally small, but the future has a large promise as that country develops and is able to provide good roads.

In and about the Metropolitan district, touring is naturally better established than anywhere else in this country. Within range of one day's ride of Manhattan, there is all of Long Island, half of New Jersey, and some portions of eastern Pennsylvania. Throughout this section the automobile has become a familiar sight on the country highways and byways, the recognized ally of awakening interest in whole counties that have suffered in population and valuation by the growth of the great seaboard cities. Adequate repair, supply and storage facilities can usually be depended upon between Portland, Me., and Lowell, Mass., on the north, and Washington, D. C., and Gettysburg, Pa., on the south; through central and western New York, along the southern shore of Lake Erie and on the Chicago-Milwaukee line. Elsewhere, one's care is multiplied, but five years more and every enterprising town of 1,200 or more will have its public garage as surely as a hotel or livery stable.

PROGRESS TOLD IN PARAGRAPHS

The great and general popularity of the gasoline type have led to some unexpected developments in the manufacturing industry. To their standard lines, both the Electric Vehicle Company and several of the big steam vehicle concerns have added gasoline models, allowing those who favor the special design and construction identified with either product to retain same in a general way, with an option as to motive power.

How well the automobile lends itself to picturesque outdoor scenes was shown by its part in the summer's end floral fêtes at Los Angeles, Colorado Springs and Saratoga. A goodly number of vehicles are owned in each place, and Saratoga especially, is the vacation rendezvous of many enthusiastic owners and users. On

some one day in September the leading American Spa rigs itself in all the colors of the garden and field, while thousands come from far and near to see. The last time, several motor vehicles were selected for decoration after the manner of victorias and coaches aforetime. Looking on, you could scarcely guess where the running mechanism began, or where the flower masses left off. Each outfit, too, was complete in itself, and when the show part was over, it was possible to run the machine in the garage and store without detaching a separate animal power. As long as the freshness of the decoration remained, the original completeness was there, and it could be put on the road in a moment. It is a new but perfectly natural part for the automobile.

While the heavyweight vehicles are demonstrating their capacity and power, the lightweights are showing an all around adaptability, with a range of operation as well as a degree of sustained speed, for which all have not been prepared. The motor bicycle—as an extreme instance of this fact—has two special 1902 laurels to its credit: (1) the longest single mileage covered by any vehicle on the third day of the Paris-Vienna race, and (2) second best time at the speed trials on Staten Island, May 31. There is bound to be a large and steady demand for runabouts of 1,000 pounds and under; and nowhere more than here must the problem of close matching of power to structure and traction capacity be worked out with greater skill and nicety.

The automobile has not only a modest literature of its own, but it is finding a place and part in the general literature of the day. Of good technical works there are already a half dozen, and volumes on the sport—especially on the touring side—are at hand or in prospect, led so far by Mr. Arthur J. Eddy's "Two Thousand Miles on an Automobile." The oldest and best library of universal sporting literature—the Badminton Library, an English enterprise, standard everywhere—has added a volume on automobiles to the thirty or more which cover the sports and pastimes of the moderns.

The demand for automobiles built by established and responsible firms whose vehicles have proven satisfactory in actual service, continue in advance of the supply; but the productive capacity of the industry is increasing at a fair rate, and the wants of all who are willing to pay a fair price for the right quality ought to be met during 1903. The pressure upon the factories has not been so great as to stampede them into careless work; and, on the other

hand, buyers have had to stand in line long enough to exercise their patience a bit. There may some time be overproduction, but it will be a long time before the well-known and responsible builders are troubled that way.

Reference Calendar for 1902

January 1. Opening of the Boston Automobile Clubhouse.

January 27-29. Good Roads Convention at Albany, N. Y.

February 5. Consumption Tests in France.

March 1-8. Chicago Automobile Show.

March 7. Third Annual Banquet of the Automobile Club of Early America, at the Waldorf-Astoria, New York.

March 31-April 11. Automobile Fêtes at Nice.

April 26. Long Island Club Century-Endurance run.

May 2. Starting and Stopping Tests on Riverside Drive.

May 30. A. C. A. Non-stop Century Run and Consumption Tests, New York to Southport, Conn., and return.

May 31. Disastrous Mile Record Trials at Grant City, Staten Island.

June 16. Brake Tests on Long Island.

June 26-28. Paris-Vienna Race.

July 18. One Hundred Miles Endurance Contest, Kansas City, Mo.

July 31. Circuit des Ardennes, Belgium.

August 2. One Hundred Miles Non-stop Contests of the C. A. C., Chicago to Waukegan, Ill., and return.

August 23. Race Meeting of the Long Island Automobile Club at Brighton Beach, N. Y.

September 1-6. Reliability Trials, Automobile Club of Great Britain.

September 16. Race Meet of the Cleveland (Ohio) Automobile Club.

September 24. Rhode Island A. C. Race Meet at Providence.

October 8-15. Five Hundred Miles Reliability Run of the Automobile Club of America, New York to Boston and return.

October 15. Boston-New York Record, 11 hours 43 minutes, net time, J. Harry Fosdick.

October 17-18. Fall Race Meet of the Chicago A. C.

October 24-25. Postponed Detroit Race Meeting.

November 8. Side-slipping Experiments in New York.

November 17. Annual Election Automobile Club of America.

November 21-22. Thirty-five Hours' Round Trip, Boston-New York-Boston, Kenneth A. Skinner and Albert Champion.

November 27. Hill-climbing Contests, Automobile Club of New Jersey, Eagle Rock Hill, Orange, N. J.

Note.—There was no 1902 Automobile Show in New York. It was held in December, 1901.

Records for the Year

BEST TIME—ALL CLASSES

Distance.	Time.	Made by	Place.	Date.
*1 kilometer	29 sec.	Augieres,	Dourdan, France,	Nov. 11, 1902
*1 mile	46 sec.	"	" "	" "
†1 mile	51 4-5	Henry Fournier,	Brooklyn, N. Y.,	Nov. 16, 1901
1 mile	1.01 1-5	B. Oldfield,	Detroit, Mich.,	Dec. 1, 1902
2 miles	2.05 1-5	"	" "	" "
3 miles	3.11 1-5	"	" "	" "
4 miles	4.15 2-5	"	" "	" "
5 miles	5.20	"	" "	" "
10 miles	10.50	A. Winton,	Cleveland, O.,	Sept. 16, 1902
25 miles	31.44 1-5	Henry Fournier,	Fort Erie, Can.,	Sept. 26, 1901
50 miles	1.17.50	A. Winton,	Chicago,	Sept. 18, 1900

Note.—*Straightaway on road. †American record, straightaway on road.

BEST TIME—STEAM CARS

*1 kilometer	29 4-5 sec.	Leon Serpollet,	Nice, France,	April 12, 1902
*1 mile	1.09 2-5	J. W. Howard,	Brighton Beach, N.Y.,	Aug. 23, 1902

Note.—*Straightaway on road

The best time made on a track by a steam car stands to the credit of Geo. C. Cannon, who drove one mile in 1.05¼ at Brighton Beach on Aug. 23, 1902, but recognition of this record was denied by the American Automobile Association, because it required two men to operate the car.

BEST TIME—ELECTRIC CARS

*1 kilometer	36 1-5	W. C. Baker,	Staten Island, N.Y.,	May 31, 1902
*1 mile	1.03	A. L. Riker,	Brooklyn, N. Y.,	Nov. 16, 1902

Note.—*Straightaway on road.

GASOLENE CARS, OVER 2,000 LBS.—TIME TRIALS

1 mile	1.01 1-5	B. Oldfield,	Detroit, Mich.,	Dec. 1, 1902
2 miles	2.05 1-5	"	"	"
3 miles	3.11 1-5	"	"	"
4 miles	4.15 2-5	"	"	"
5 miles	5.20	"	"	"
6 miles	6.39 2-5	A. Winton,	Providence, R. I.,	Sept. 24, 1902
7 miles	7.47 1-5	"	Detroit, Mich.,	Oct. 24, 1901
8 miles	8.54 3-5	"	"	"
9 miles	10.01 2-5	"	"	"
10 miles	11.09	"	"	

GASOLENE CARS, OVER 2,000 LBS.—TIME TRIALS (Continued)

11 miles	14.02 2-5	A. C. Bostwick,	Yonkers, N. Y.,	Oct. 8, 1901
12 miles	15.21	"	"	"
13 miles	16.38 4-5	"	"	"
14 miles	17.55 3-5	Henry Fournier,	Fort Erie, Can.,	Sept. 26, 1901
15 miles	19.10 4-5	"	"	"
16 miles	20.24 4-5	"	"	"
17 miles	21.40 4-5	"	"	"
18 miles	22.56 4-5	"	"	"
19 miles	24.12 2-5	"	"	"
20 miles	25.25 2-5	"	"	"
21 miles	26.42	"	"	"
22 miles	27.57	"	"	"
23 miles	29.12	"	"	"
24 miles	30.28 4-5	"	"	"
25 miles	31.44 1-5	"	"	"
50 miles	1.17.50	A. Winton,	Chicago, Ill.,	Sept. 18, 1901

Note.—Oldfield's records, one to five miles, inclusive, are denied recognition by the A. A. A., sanction not having been obtained for the trials.

GASOLENE CARS, OVER 2,000 LBS.—COMPETITION

1 mile	1.07 4-5	B. Oldfield,	Detroit, Mich.,	Oct. 25, 1902
2 miles	2.12	"	"	"
3 miles	3.17	"	"	"
4 miles	4.22 2-5	"	"	"
5 miles	5.28	"	"	"
6 miles	6.34 3-5	A. Winton,	Cleveland, O.,	Sept. 16, 1902
7 miles	7.38	"	"	"
8 miles	8.42	"	"	"
9 miles	9 45 1-2	"	"	"
10 miles	10.50	"	"	"

GASOLENE CARS, BETWEEN 1,000 AND 2,000 LBS.—COMPETITION

1 mile	1.19½	Percy Owen,	Providence, R. I.,	Sept. 24, 1902
2 miles	"	"	"	"
3 miles	"	"	"	"
4 miles	"	"	"	"
5 miles	"	"	"	"
25 miles	39.38	C. B. Shanks,	Chicago, Ill.,	Oct. 18, 1902

GASOLENE CARS, UNDER 1,000 LBS.—COMPETITION

1 mile	1.38¾	J. F. Duryea,	Providence, R. I.,	Sept. 24, 1902
2 miles	3.09¾	"	"	"
3 miles	4.39¾	"	"	"
4 miles	5.11¾	"	"	"
5 miles	7.42½	"	"	"

STEAM CARS—TIME TRIALS

1 mile	1.09 2-5	J. W. Howard,	Brighton Beach, N.Y.,	Aug. 23, 1902
2 miles	2.44 1-5	Rollin H. White,	Cleveland, O.,	Sept. 16, 1902
3 miles	4.03 2-5	"	"	"
4 miles	5.24	"	"	"
5 miles	6.43	"	"	"

STEAM CARS—COMPETITION

1 mile	1 34	W. C. Buckman,	Detroit, Mich.,	Oct. 25 1902
2 miles	2.51	"	"	"
3 miles	4.07 2-5	"	"	"
4 miles	7.55¼	G. C. Cannon,	Providence, R. I.,	Oct. 17, 1901
5 miles	7.51 4-5	M. Reimers,	Detroit, Mich.,	Oct. 24, 1902
10 miles	19.05 4-5	Rollin H. White,	"	Oct. 10, 1901

Note.—A. L. Lee's time was made in a 3 mile race. M. Reimers' time was made in a mixed race, gasolene and steam cars competing.

ELECTRIC CARS—TIME TRIALS

1 mile	1.46	A. L. Riker,	Guttenberg, N. J.,	Aug. 18, 1900
2 miles	3.37 2-5	W. C. Baker,	Detroit, Mich.,	Oct 25, 1902
3 miles	5.20	"	"	"
4 miles	7.15	"	"	"
5 miles	9 05 1-5	"	"	"
6 miles	10.56	"	"	"
7 miles	12.44 3-5	"	"	"
8 miles	14.30	"	"	"
9 miles	16.1	"	"	"
10 miles	17.58	"	"	"

ELECTRIC CARS—COMPETITION

1 mile	2.08¾	W. C. Baker,	Cleveland, O.,	Sept. 16, 1902
2 miles	4.03	"	"	"
3 miles	5.54¾	"	"	"
5 miles	8.47 4-5	A. L. Riker,	Brookline, Mass.,	June 15, 1901

TOM COOPER AND BARNEY OLDFIELD READY FOR RECORD WORK

Nineteen Naught Three in Horoscope

By Marius C. Krarup

WHEN requested to be witty the average person forthwith turns inexpressibly dull. He is seized with speechless introspection and overcome with barren self-consciousness, unless he is the happy possessor of bottomless and joyous conceit. A somewhat similar revulsion of the faculties took place in the writer's mind when the editor of this magazine coolly and serenely demanded an article on "Automobiles in 1903 in America," or "What Styles and Types of Motor Vehicles Will be Popular in the Coming Year?"

None of the prophets whose fame has descended through the centuries delivered his wisdom to order. On the contrary, their utterances were always spoken from "behind the veil where the word is one with what it speaks," and no one, least of all the prophet, suspected that something prophetic had been said. And this was the reason that a prophet was without honor among his people. To be sure, there was the Delphic oracle and Mrs. Sibylla and the representative of Zeus Ammon 'way out in the Libyan desert. The writer faintly remembered that those were said to have delivered prophecies for so and so many oboles deposited at the shrine. Besides, there were clairvoyantes on Sixth avenue of great local celebrity. Could it be that the editor wanted something oracular? nebulous words of vague and double meaning? Perish the thought! Evidently it was true, sharp and succinct prophecy that was wanted.

"My dear Sir," said the writer, having reached this conclusion, "do you know that if I could tell your readers what you ask, some large manufacturer could well afford to pay me $50,000 per year for telling it to him alone?"

"Oh, well," blandly replied the sage at the desk, "don't take it too seriously. Nobody else will. The chances are that most manufacturers, and laymen too, for that matter, will disagree with what you may have to say on the subject, but that makes very little difference. It is a topic of which we are all thinking more or less at the present moment, and somebody must furnish the raw material so as to make the thinking a little bit easier. You furnish the canvas and everybody will do his own embroidering, no matter what pattern you outline on it."

At this an illuminating ray shed new light on the functions of special literature, and the momentous article of prophetic cast shrank

visibly in importance until the framing of it seemed to come readily within the compass of ordinary ability.

Now, therefore, let us tackle the question in earnest. What styles of automobiles will be popular in 1903?

There is invidious distinction in the query, and it should first of all be asserted that they will all be popular. One will be popular at $10,000 and another will be the favorite at $500. Manifestly the question of preference and the question of price are badly entangled. The mere fact that ten times as many automobiles can be sold at $1,000 each as at $5,000 each does not really render the cheaper vehicle the more popular one, unless it may be proved that those who buy it would not buy the more expensive one if they could afford it. No doubt, hundreds of young men of limited means have testified their enthusiasm for a Mors, Panhard, Napier or Mercedes by buying a Werner motor bicycle for $150. It was the best they could do, but not necessarily what they desired to do.

If by popularity should be understood the degree or intensity of approval, and we wish to know to what types of automobiles the most intense approval will go out in 1903, the answer, it would seem, can be obtained only from those classes of the population who buy with little or no regard to price.

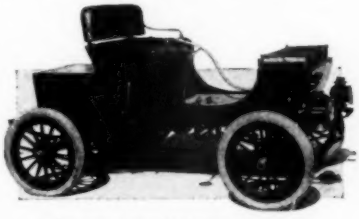
If it can be determined at this time that they, as a rule, will purchase certain medium or low-priced automobiles in addition to the high priced ones which will be decreed by fashion, there will be good reason for picking out such medium-priced or low-priced models as the true favorites. Even the idoled patterns which are bought largely for the prestige of their names, and everything implied therein, could not be said to rank so highly in genuine popularity. But, unfortunately, no criterion of this kind is available.

Those who intend to renew their automobile stables next year will be influenced greatly by the Paris automobile show, the two London shows, the Madison Square Garden show, and are not at the present moment—*medio* December—very sure of their preferences. Also, they are in the habit of buying automobiles in a light vein, trying many, reselling those which do not suit, and keeping only the few with which they are particularly pleased. In the course of a year they frequently own five or six vehicles, though at any given time the number may be much lower. The clue to the situation to be found in these quarters seems now less decisive than at first anticipated. Probably the criterion of intense approval is not practicable, after all.

We must get down closer to ascertainable facts, even if we must drag the question of price with us as one of those unavoidable factors

in a complicated situation, by which the question of pure preference or popularity is necessarily muddled and rendered less amenable to direct and correct answering.

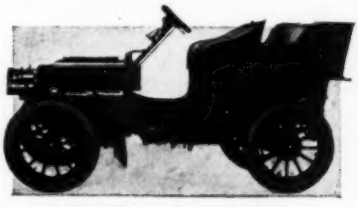
With the mental reservation that comparisons between automobiles of widely varying cost is excluded, we proceed to inquire about the favorite types of 1903.



CENTURY STEAM TOURING CAR

Every prognosis must be based on facts, and those at disposal in this case may be classified about as follows: 1. Preferences shown by the public in 1902; 2. Demonstrated points of superiority in construction; 3. Current notions and prejudices; 4. Preparations made by manufacturers for the coming year or for the shows.

Of these four classes of facts in regard to which information is obtainable, the fourth is probably the most important, because there is no other actual embodiment of the public's preferences than the work done by the industry. A vehicle that is not manufactured extensively cannot be used extensively. Though many manufacturers may blunder in their judgment as to what the public will want to buy, in the end the public can buy and use only what the manufacturers are willing to produce, and it is safe to say that in the past the fashions in automobiles have been set more by accident than by design, and more by the will of the maker than by the deliberate acceptance of the purchaser.



AUTOMOTOR CO. GASOLENE

ST. LOUIS MOTOR CARRIAGE CO. GASOLENE

The gasolene vehicle became the fashion in France without trial and rejection of any other type. The electric carriage was the rage in this country for a short time, mainly because a rich company discovered the opportunity for disposing of thousands of storage batteries by taking advantage of the public's predisposition in favor of electricity. The steam vehicle subsequently gained ascendancy mostly through the fact that it could be produced on a large scale by automatic machinery already existing—and, then, because gasolene ma-

chines in those days left an odorous trail and rattled. After the Spanish-American war thousands of Americans began to reciprocate Europe's new feelings toward us, and became duly impressed with the brilliant achievements of the French automobile industry. The prejudice against gasolene automobiles gradually changed to admiration culminating in the vogue for high-power, motor-in-front gasolene cars of the detachable tonneau pattern.

That there is more fate than system in this evolution is clear from the facts that France and England have grown quite enthusiastic over steam vehicles since their star commenced to decline in this country in the popular estimation, and that some of our American gasolene cars which are not included in our home vogue for this type —because their design was developed on original lines—are considered the best representatives of the American art abroad.

The waves of popular favor run as they are driven by the industrial winds, with highest crests and deepest troughs in the shallow waters of fashion, though finally they must all break on the shore of utility.

If we wish to know where they will run high and where low, it is, therefore, the industrial tendencies we must examine. The manufacturers' preparations will give the key to the public's preferences for the first period of the immediate future. There is no other mirror that reflects the general public so faithfully, not even the press, but the picture presented is kaleidoscopic, changing every day, and must be fixed at those propitious moments when the industry, as a whole, is taking stock of itself while also shrewdly permitting its supporters to survey, criticize and become enthusiastic for its productions; in other words: at show time.

At the time when this is read the first reports of the Paris exhibition will have reached New York, but even at this moment it is fairly well known what will be the character of the show and what types and styles will predominate.

There will be a grand display of carriage styles. Where the tonneau touring car of high power, long, low and heavy-set, held sway last year together with the light car of medium power, with bevel gear transmission shaft to the differential gear on a divided rear axle, a much greater variety will strike the eye on this occasion. Gasolene motor stages, omnibuses, limousines and every known form of closed or closable carriage will be exhibited by nearly every firm of note. But all the styles of any one firm will be built over the same *châssis*,

PRESCOTT STEAM TOURING CAR

for the French have learned a lesson in economy of manufacture, though somewhat to the detriment of the artistic appearance of the vehicles. And exceedingly few of the stages and omnibuses will have a large carrying capacity. Ten persons will be about the maximum, for haulage of a heavy load is not yet the strong point of gasolene vehicles, unless speed is deliberately sacrificed to a greater degree than the public is supposed to be willing to consent to. It will be the smart thing to complete one's automobile stable by adding a few of the new winter vehicles to one's equipment; carriages in which all pretense of speed and sport is dropped for comfort and convenience in elegant social life. It will be the fashion to treat automobilism as the self-evident substitute for and improvement upon earlier forms of conveyances in all their varieties, and no longer as an innovation for investigation and experiment.

HAYNES-APPERSON GASOLENE

Still, the light open car for town use and minor excursions and the tonneau car for the country—both of them exceedingly speedy though docile under the brake and the throttle—are not by any means disappearing. They are still in the majority, only not so overwhelmingly as before. The French industry was caught napping last spring, when the German Daimler-Mercedes car made its appearance at Nice. As a new type it had been known a year previously, but had been comparatively ignored. It became impossible to ignore it any longer. At this show the supremacy of its type is humbly acknowledged through the most general imitation of its most conspicuous external features. Practically all of the proud manufacturers in the suburbs of Paris will show tonneau cars with the square Mercedes front produced by the equipment with honeycomb ra-

GROUT BROS. STEAM

diator and ventilating fan. The majority follow the German lead also in the adoption of the Simms-Bosch magneto for igniting the explosive charge, the Mercedes system for maintaining an even temperature in the carbureter, and the internally pivoted front wheels. A business has sprung up in Paris consisting in remodeling cars of the past year's pattern and fitting them with the new radiating apparatus at a cost of about $150 per car. The conversion is as complete if not as radical as that of American manufacturers to the vertical-motor-in-front type witnessed at and after the show in the Madison Square Garden one year ago.

Will this deep compliment to the Cannstatt-Daimler people result in a popular demand for the machine which has been so extensively copied? This is the question which French manufacturers naturally asked themselves before plunging into imitation. They were perfectly safe, however. Those who have adopted the pleasing Mercedes features are precisely the same firms who had orders ahead for their production for 1903 and extending well into 1904. They ran no risk. Besides, the productive capacity of the Mercedes factory has so far not exceeded 15 machines per week—a mere drop in the bucket—though an enlargement to more than double is now being made. The public might besiege the firm with thousands of orders, but they could not be executed or accepted. The firm also boasts of maintaining the highest factory price for its goods of any in Europe.

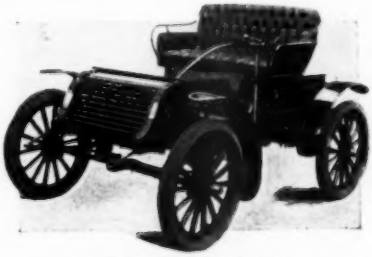
We may conclude that the Mercedes type will be in fashion more than ever, but will be honored in its imitations more than in the original. Further, it will be the fashion in racing and touring cars almost exclusively, while in the smaller varieties other styles will prevail. We hear of small cars which are of surprising efficiency and elegance, and which are being turned out in great quantities by such manufacturers as Clement and De Dion et Bouton, who are completely equipped with American machine tools and have adopted our methods of mass production of a single pattern, which, consequently, they are enabled to place in the market at very reasonable prices, though fitted with all the latest refinements.

Wherein the style of these small cars of 6 to 10 H. P. consists may in each case be conveyed more easily and completely in a single picture than in a thousand words. In point of construction they seem to present nearly all the good features of the larger vehicles except that their motors are single or double-cylinder instead of four-cylinder engines. They have usually three forward gear speeds, though some of them have only two, while the touring cars have four.

The base of the small cars is longer than a year ago, and this, with the width unchanged, gives them a fast and thoroughbred appearance. The seat, which seemed too far back in all small cars, is now well in front of the rear wheel axle, so that the body of the driver comes almost over the middle of the wheel base.

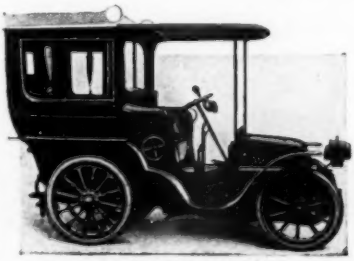
STUDEBAKER ELECTRIC RUNABOUT

The construction features, which are new and universal for pleasure cars, large or small, consist mainly in refinements in the carbureter, permitting more perfect throttle control; the substitution of mechanically operated intake valves for those operated by the suction of the cylinder against spring resistance; direct connection of the motor shaft with the highest gear speed drive, leaving all other gears out of operation and thereby greatly diminishing friction, wear and noise, and incidentally increasing the speed of the vehicle.



FRIEDMAN ROAD WAGON

The logical upshot of the last-mentioned improvement is the small car—800 to 1,200 pounds—which is practically always driven by the direct gear, having only one other forward gear, which is exceedingly low and intended only for such emergencies as when the machine must pull itself out of a mudhole. In cars of this description the power is usually high, coming close to one horse power for each 100 pounds of weight. The tendency toward this type seems to be strong, and the only drawback to it lies in the temptation it offers rash drivers for abusing the power and wrecking the machine by keeping up a faster pace than that for which it is intended.



MORS RIMOUSINE

Features which are not new but have become more generally adopted are such as the sliding gear box arrangement. Separate clutches for each of the gear speeds have been practically abol-

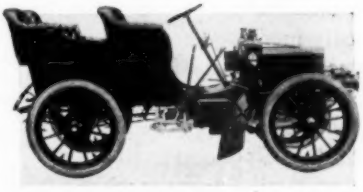
ished, and planetary gear devices are found only in a very few models. In one instance at least the gear box encloses also the differential gear on the driving axle; in another it is in one with the motor casing. It should be noted, by the way, that the rear axle and the driving axle are no longer interchangeable terms. Motorists have been in the habit of speaking of a "live rear axle" in those cases where the power is transmitted to a differential gear on the axle which drives the rear wheels. So long as this axle supported the weight of the vehicle, besides driving the wheels, its division into two parts at the differential gear was a source of weakness, or else the cause of unnecessary massing of material and weight. In the best 1903 machines, of the class referred to, the most rigid connection between the two rear wheel bearings is through the semi-elliptic springs and the vehicle frame, and the differential shaft serves only the purpose of rotating the wheels, but no longer keeps them in alignment by its own strength and rigidity. In one of the very latest American machines this feature has been not only adopted but improved, so that the weight of the vehicle is supported within the hubs of the wheels while the differential shaft extends through the hollow bearings and is keyed to the wheel hubs on their outer face. Undoubtedly other American manufacturers will discover the value of this construction, which must make a very stanch and true-running car, especially for our rough roads, where bumps are severe on the ordinary "live rear axle" construction.

While vertical-motor-in-front-and-under-a-bonnet design remains decidedly in the majority in the new French cars, it cannot be said that the last year's experience has given any setback to the minority who still prefer horizontal, opposed cylinders. Some French manufacturers, whose cars have been particularly prominent as prize winners in contests, adhere to the horizontal pattern, and place the motor either in front or in the rear. One leading British automobile builder also uses horizontal engines, and in this country a number of the most substantial manufacturers refuse to yield to the vertical-motor-in-front fashion.

But for the striking bonnet design which goes with this fashion, and which is undoubtedly both popular and practical for pleasure cars, there might, from present indications, be good reason to expect that any disposal of the motor—horizontal or vertical, in rear or in front—would soon become equally acceptable, the choice to be determined as a matter of taste and convenience in carriage design, and not on technical grounds.

When something radically new comes up in the automobile world it usually goes on probation for at least one year before it begins to affect the market through the demands of the general public. The only exception to this rule seems to be when a vehicle in which some strong novel feature is embodied, gains extraordinary prominence in the great racing events. It was not sufficient, for example, that four light Renault cars showed a highly meritorious reliability in the Paris-Berlin race by keeping closely together at a very good rate of speed, or that two of them, if the writer remembers correctly, had kept together in the same manner in the Bordeaux-Paris race the previous year. Those performances were most excellent and significant to the few who could read the signs right—the advent of the light car of flexible frame and flexible power transmission—but they were not sensational. When, however, one Renault car won the Paris-Vienna race, though the victory was almost a fluke, its type sprang into popular prominence at one bound. In a similar manner the Serpollet steam car forced the admiration of the world more by its sensational spurts and tremendous hill-climbing speed on La Turbie at Nice and elsewhere than by its much more substantial qualities as a particularly pleasant traveler. Though French prejudice against steam for pleasure vehicles was strong for a long time, partly on technical and partly on patriotic grounds, the Serpollet car has now forged strongly to the front. And this is due in no small measure to the Mercedes boom. The French wanted to point with pride to some construction of their own as an offset to the Mercedes triumph. The record-breaking successes of the Serpollet cars gave them this opportunity. Were it not for the

WALTHAM MFG. CO. GASOLENE



PEERLESS MOTOR CAR CO. GASOLENE

SANDUSKY GASOLENE RUNABOUT

monopoly enjoyed by its designer and maker, which prevents the industry at large from sharing in his glory and his, recently, fast-increasing profits, the flash-boiler steam car might now be extremely popular in France, but its production is limited by the capacity of one firm, and the number of persons who have good, strong financial reasons for advocating its type is limited in corresponding degree. It does not receive the benefit of frequent comparisons with other automobiles, because it is in a class by itself, but must earn all the mention it receives by prominent participation in contests and races. Now it has, however, passed the "dead center," and nothing stands in the way of more extended popularity for its type except its limited production and the rather high cost of its manufacture.

Its nearest kin on this side of the Atlantic—the White steam carriage—has had an easier path to prominence, because the way for it had been paved by thousands of steam cars, all of which were in the hands of persons who would naturally discuss any new steam vehicle which for one reason or another attracted their attention. It required only merit to become popular here, while the Serpollet car required merit and sensational exploits. In the peculiar sidelight which this comparison throws on the devious factors which enter in the manufacture of popularity lies the only excuse for dwelling on the position of the Serpollet type of car in France, for it may be considered certain that of all French machines it will be the last to influence our selection of a machine in this country during the year now opening. And it is solely with a view to the probable preferences of American purchasers of automobiles that we are examining the conditions leading up to the Paris exhibition.

Certain possibilities in this direction may be traced, however, to a few other types which have been working their way up in France during the past year. The Fouillaron machine has been before the public since the 1901 Paris show. It is a gasolene car, in which a special belt running over two pulleys, which may be contracted and expanded by means of a controlling lever, take the place of all variable speed gearing. The operative motions of the driver are much simplified, but, unless specially enthusiastic reports are received in regard to this type, there seems to be small chance that it will in any manner affect the American market conditions, since all its advantages are obtained, in what seems to the writer a better form, in all those gasolene cars which are equipped with a sufficiently flexible and sufficiently powerful motor to enable the operator to drive nearly always on the high direct gear at varying motor speed.

The gasolene car with electric power-transmission system promises much more, and has indeed already been taken up by a number of experimenters in this country. Generating the power by a gasolene motor it transforms the energy into electric current by means of a dynamo, and this current is utilized to drive the vehicle through electric motors. The Lohner-Porsche firm, of Vienna, applied this system to a Mercedes car and ran the vehicle with some success at the time of the Paris-Vienna race; Jenatzy and Champrobert are others who have built machines with this equipment, and it is understood that the Panhard et Levassor firm are producing a vehicle on the same general plan. Heavy trucks have been manufactured for some time in Hoboken, N. J., based on this principle, and are in daily commercial use in New York city. Most of these vehicles are equipped with an auxiliary electric storage battery. A touring car on the same order was entered in the 500-mile Reliability Contest from New York to Boston and back, but proved to be insufficiently powered. Doubtless much attention will be paid to this combination system, now that it has reached the shows. It has the advantage of electric storage battery vehicles in simplicity of operation after the motor has been started, and it has the long radius of travel characteristic of gasolene vehicles. It competes, however, no longer with crude and noisy gasolene motor cars or troublesome steam cars, but with perfected specimens of the automobile builder's art, and whether it has enough to recommend it in the comparison seems at present more than doubtful, considering that high power, good throttling control, direct driving and almost silent running of several modern gasolene motor machines with mechanical power transmission are factors which have removed most of the reasons which at one time prompted inventors strongly in favor of the combination design. For another year at least the writer believes that the gasolene vehicle with electric transmission, with or without storage of energy in a battery, will be a negligible factor in the market for pleasure automobiles.

F. B. STEARNS GASOLENE TOURING CAR

SMITH & MABLEY C. G. & V. GASOLENE

Passing from France to England and Germany in search of current tendencies which might influence our manufacturers or our buying public, little is discovered which did not originally hail from France, except in the utilitarian branches of the movement, and these cover too vast a scope for consideration in this article. The main feature of interest in England has reference to steam cars. The British insist on the use of condensers, and have practically proved that their insistence is just. Without their example we should hardly have been able to induce our manufacturers to incorporate this needed improvement, which they now feel sure will be indispensable. A strong tendency is also observed in favor of kerosene to take the place of gasolene as fuel in steam cars, largely on grounds of economy.

When we now begin to draw inferences from the conditions in France and England—the two countries from which we receive new impulses equaling in force and importance those originating among ourselves—the field of hypotheses opens up broadly. But it is possible to narrow them down to highly interesting probabilities.

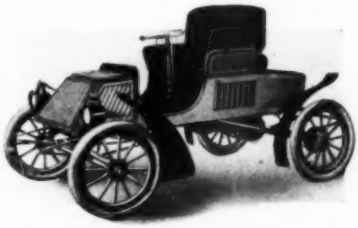
The general design of the automobiles at the Paris show was known, with few exceptions, two months before it opened. Lists of the exhibits to be shown by each of the prominent firms were given in most of the French automobile journals, in many instances with good explanations of mechanical details; otherwise we should not have been able to get down to the foundation for our next year's fashions in motor vehicles.

Now it is a peculiar fact that our industry learns of French tendencies chiefly via England. Its members, when they go abroad, learn more in London in one day than in Paris in two weeks, possibly because it is distasteful or impracticable to make investigations with an interpreter at one's side.

Knowledge cannot be "picked up" in that way, and advance knowledge must always be "picked up" in bits here and there and then pieced together and verified by observation. It comes only in that manner or else by close, systematic study of the observations of others—also verified by subsequent personal observation—such as newspapermen of the better caliber are compelled to make.

But the English themselves are not ready linguists. They depend greatly on the British colony in Paris for information about French affairs. As a rule they get it only when such information is ripe for distribution. Probably herein lies the main reason why neither the Crystal Palace show at the end of December or the Madison Square

Garden show in January will follow the French lead in the general adoption of what I should prefer to call the capillary cooling system (rather than "honeycomb," "multitubular" or "Mercedes") for the large touring cars. It seems that there will be only one or two British makers and one or two American makers (and one of these the American Daimler firm) who will be ready to show the square front radiator, and the other above-mentioned features which go therewith, at their respective exhibitions.

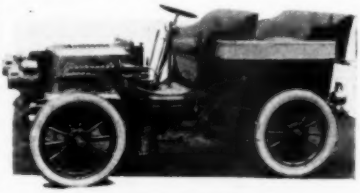


T. B. JEFFERY & CO. GASOLENE

Gathering all the foregoing raw material for surmises into one mental picture of the conditions, we must now make our deductions and jump at our conclusions.

Our enterprising manufacturers of component parts will at once go to work to produce the square-front radiator with fan—at least its external form—and will offer it to the industry about March 1, when both the New York and the Chicago shows are over.

Imported specimens of the new style will be exhibited at both shows, and will set the style for those who can afford to pay import prices. A harvest will be reaped by the importers who have got their orders for the standard French machines placed in time, and also by those who awaken to the fact that some of the less standard French machines will be equipped in the same style and may be sold here on the strength thereof.



POPE-ROBINSON GASOLENE

Our automobile manufacturers' new models are practically all ready now, and no great change can be made in them for either of our shows. Reinforced by their British colleagues our industry will then take distance from the French fashion, and we will all help them to prove the truth, which is that the pattern of the radiator is after all a merely conventional and in itself unimportant feature so long as our cars are efficient, simple of operation and not liable to heat up just because they are driven a mile or two on the lowest gear speed. Many of them, by the way, will be fitted with direct high-gear driving, and the feature of throttling control—in which some of our makers were really the leaders of the world, though our glory in this

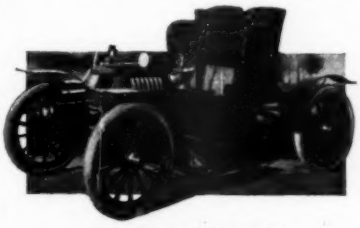
respect has been stolen—will be as well represented here as in France. Some of the French machines which will be seen at the New York show will be of independent design. Mr. Skinner, for example, promises to remove the De Dion exhibit bodily from the Grand Palace and deposit it at Madison Square. We shall point out that this old and large firm has seen no reason to yield to all new fads. Why should we? We have advanced far enough to set our own pace. The British fashion is with us, and it should not be forgotten that the British, and not the French, hold the Gordon-Bennett International cup. As for the Germans, only one of their manufacturers holds a leading position—well in the lead, to be sure—but one swallow does not make summer.

It will be remembered that a year ago the acknowledged supremacy in Europe of the motor-in-front type resulted in our adoption of what you might call the something-in-front type. At the Garden show a great many orders were given and accepted for American machines built entirely on French lines with the vertical motor actually in front and under a bonnet, but the hit of the show was an American machine with the motor in the rear and "something" in front, and that something shaped on rather graceful lines. A good second was of the same order. Both had the detachable tonneau feature. The orders for the American-French cars dwindled somewhat in course of the year, partly from troubles in securing deliveries. One gorgeous car of this pattern proved a mere decoy-automobile, good to look at but stationary on the road, which is considered a fault in automobiles. Its makers went bankrupt. The makers of the American styles flourished. We are speaking of large cars with tonneau attachments, which are, of course, not strictly American in style, but rather a compromise. The tonneau and the something in front are the compromise features. Makers of small, out-and-out American cars also flourished. It was largely a question of price. Those who disregarded price ordered the genuine imported car, while those who liked to save from $500 to $3,000 on a purchase flocked in greatest numbers to the compromise machine. They insisted on the tonneau; the word had caught their fancy; but not strongly on anything relating to the motor.

This year the motor-in-front machines of American make will be quite numerous, and will be well up to date, except that they will not have the Mercedes front. The public who buy on fashion-plate grounds will know that they ought to have that feature, and will again place their orders with importers.

Those among our manufacturers who have adopted the motor-in-front will suffer slightly, though the general expansion of the automobile movement will take care of them in a measure, and they will all promise spring deliveries with any front desired. When May rolls around they will be ready to turn out their cars in any external design, in front, that may have gained greatest prestige by that time. We move more rapidly in those things than any other nation.

I should say that such cars as the Winton, the Packard and other tonneau-carrying models in which the motor is still in its accustomed place, where their designers originally placed it, would gain a distinct advantage in popularity at the Garden show by comparison with the large American cars which miss the latest French style by an inch, were it not that the psychological moment may have passed for "something" in front, which, after all, is not what it purports to be, but merely a concession to the eye. Those who have won their spurs during the past year or years without making this concession should, by the laws for fluctuations in public favor, be in line for promotion, but there is no denial that it is incumbent upon them to do something original in designing in order to remove that impression of "horselessness" which was so successfully eliminated from other automobiles by placing the motor in front under a hood and by discarding full-elliptic springs for the long and flat semi-elliptic variety. Here again is a question of the psychological moment, and most of our manufacturers realize that it has arrived, but unfortunately there are no signs that any rear-motor vehicles—including steam cars—will be shown at the Garden in which the esthetic demands, which have now grown strong among the public, will be satisfied as completely as by the motor-in-front construction. The greatest success on this point in the past was undoubtedly scored by the Oldsmobile with its curved front à la toboggan sleigh and its absence of front springs. Looking things squarely in the face, who can doubt that the enormous sales of this model were due to these features and



A. L. DYKE GASOLENE

AUTOCAR GASOLENE

the noiselessness—another esthetic quality—more than to considerations of automobile engineering?

This takes us to the small cars. The precedent of the Oldsmobile has been a leading one. It will have many imitators, but most of them have failed to recognize the importance of the curved dash design, having substituted a "something" which does not take its place and, on the other hand, does not suggest the bonnet-in-front except as a feeble make-believe. As a prophet I must be governed by the public's declared preference and the other available facts, and we are constrained to believe, then, that public favor will follow its old lines so far as our purely domestic product is concerned, and unless some well-built model turns up at the Garden show with a new and happy solution of the "horselessness" bugaboo, the patronage of the public will be divided mainly between those who have solved this esthetic problem best at home and those who present the neatest imitation of the French "light car" of full-fledged, motor-in-front construction.

Our contests, as well as European contests, have proved the light car quite the equal in reliability to more expensive and heavier constructions, for the transportation of two persons. Their vogue is growing. Their price is attractive. Some exceedingly smart samples of this class will undoubtedly arrive here from France, and they will all have the motor in front, but those of them which will at all compete with our home manufacture in price will not have the Mercedes front. Small American cars of similar pattern will be seen, though not in great variety, and will certainly be bought extensively, the sale restricted only by their price, which will be higher than the French factory price for similar vehicles. I have not the least hesitancy in predicting that this type of car will give strong battle to our runabouts before the year of 1903 is far advanced, and will be produced here in much greater quantities than at present. They will all have "sliding gears" and direct high-gear drive, and those most nearly noiseless will be preferred.

In the American vehicles of this type which will spring up, the frame (châssis) will hardly be made of tubing or of armored wood, much less of channel or angle iron, but we will attempt to go our French preceptors one better by using pressed sheet steel of special shapes, because our facilities for availing ourselves of this material are excellent and because our manufacturers will have found out before long that it is cheaper, lighter and stronger than any other when properly used, and is the latest refinement in frame construction abroad.

The situation as regards steam vehicles and electric vehicles is very much simpler than that outlined in the foregoing. Our public have learned that our light steam carriages are being accepted abroad in direct competition with the best gasolene motor cars, strictly on their merits as conveyances. We have also learned that the cost of operating them and the cost of repairs depend mostly on the personal qualifications of the operator. For careful persons not averse to learning something about the proper treatment of a steam equipment and not over-anxious for sustaining high speed on poor roads, our steam carriages in all sizes possess notable advantages, and, while we shall never return to look upon them as the favorite type of automobile for pleasure driving or sport, we shall begin to admit that they are much better, for the class of persons referred to, than the majority of the gasolene cars which have been accepted by us up to the present time, though not better for all purposes than the greatly-improved gasolene vehicles which will be available in the future. At a lower price than must be asked for the best gasolene cars intended for the same service, they will command a broadening market during 1903, conditioned somewhat by the introduction of superheating and steam condensation for economy, convenience and, may it be added, appearance. The condensers in front of steam runabouts constitute an improvement in looks which grows rapidly on the observer when he becomes accustomed to it, serving the same function in this respect as the bonnet and radiators in front of the French pattern of gasolene cars. With semi-elliptic springs the transformation would be still more pleasing. Little has been heard of radically new designs in steam carriages, yet the world is waiting for a steam car in which kerosene may be used as fuel, without odor and smoke, and with some carrying capacity apart from the passengers. The great number of persons of moderate means who are more familiar with steam power than with the explosion engine, and feel more competent with it than when called upon to remedy the ailments of a cheap or abused gasolene motor, assures a hearty welcome for the steam vehicle which shall meet their wants, which are largely utilitarian, and a fair share of patronage for the models already in the market.

Electric storage battery vehicles will hold their own. As the sport feature of automobilism recedes and the anti-speed movement grows in strength and ferocity, the place of the electric vehicle in urban traffic is again becoming recognized. More and more people will discover that they don't really care to make long runs through

rustic wilderness, but that they do want a comfortable conveyance to and from their office or for shopping and visiting purposes, and, under proper guarantees, they will prefer to buy electric vehicles. But 1903 will not see the dreamed-of era when the discharged or partially discharged battery can be exchanged at any cross-roads grocery store for a charged one, and before this comes to pass the electric vehicle will have no place among the automobiles, roving freebooters of the highways, in which popular enthusiasm is centered.

Who the Long-nosed Englishman Was

KING LEOPOLD, of Belgium, who, among his other democratic associations, is president of the Belgian Automobile Association, was recently driving a big semi-racing automobile on the outskirts of Brussels. The King was alone save for a companion, with whom he was conversing in English, which tongue the monarch speaks fluently. They stopped at the farmhouse of one of his subjects to get a drink of milk. King Leopold continued his conversation in English, and the farmer's wife, not recognizing him, remarked to her husband:

HERBERT A. SMITH, SYRACUSE, A TOURIST OF NOTE

"I wonder what the long-nosed Englishman will give us for that bowl of milk?"

"The long-nosed Englishman will give you his portrait," said the King, addressing her in her native tongue as he handed her a five-franc piece.

She Knew Her Man

He—Darling, which would you rather have for a birthday present, an electric or a gasolene automobile?

Wife—I'd rather have $10, dear.

How to Handle Gasolene

By E. W. Roberts

WHY is it that a man who will handle gunpowder with impunity, who would not hesitate to set fire to a small quantity of the powder strewn upon a board, will blanch at a suggestion to do the same thing with gasolene? This same man will shoot all manner of fireworks in commemoration's birthday momentous were someone ed match to a can filled with would make a timber. Even quite familiar and have hanerably as operaengines would hesitate before experiment Fig. 3. It would uncalled-for fear of gasolene is caused by the fact that a bad reputation is easily acquired but difficult to shake off.

Gasolene is that one of the series of petroleum products which is given off, during the selective distillation of the crude material, just between benzine and kerosene. Gasolene as employed for gasolene engines is comprised in that series which is known to the oil trade as C-petroleum-naphtha. This series includes those oils which have specific gravities lying between .667 and .707, or, as they are more frequently distinguished, between 80° and 68° Baumé. The boiling points of the oils classed as C-petroleum-naphtha lie between 176° and 212° Fahr. Gasolene, therefore, is lighter than water, and vaporizes readily at ordinary temperatures. For gasolene engines the fuel employed is usually 72° (Baumé), or stove gasolene, and that used for steamers generally 76°.

Gasolene itself is a chemical compound of hydrogen and carbon, as are kerosene, benzine and the remaining petroleum derivatives, and

is known as a hydrocarbon. It will unite with oxygen to form water and carbon monoxide, the process of this union being known as combustion. In order to start combustion the temperature of the fuel must be raised to the temperature of ignition, when combustion will take place at the surface in contact with the oxygen, usually that contained in the atmosphere. The heat of combustion of one portion of the liquid raises an adjoining portion to the ignition temperature, and so the combustion continues from one particle to the next. The rapidity with which combustion takes place depends upon the extent of the surface exposed to the air and also upon the rapidity with which the products of combustion pass away and give room for fresh air.

When both the air and the fuel are thoroughly mixed, the combustion is so rapid as to become explosive, as in the cylinder of a gasolene engine. An excess of either air or fuel in a confined space dampens the explosion, and when the proportion passes a certain point an explosion will not take place. It is seen, therefore, that both air and heat are necessary to produce an explosion, and that, unless air be present, gasolene will neither burn nor explode. Again, the liquid will not explode even in the presence of air, unless the air and the combustible are intimately mixed. This is the reason that in the series of experiments illustrated herewith, no explosion takes place.

In Fig. 1 is shown a common oil can containing about two-thirds of a gallon of gasolene, to opening of which the writer is holding a lighted match. No explosion follows this apparently foolhardy procedure, since the comparatively rapid evaporation of the fuel has

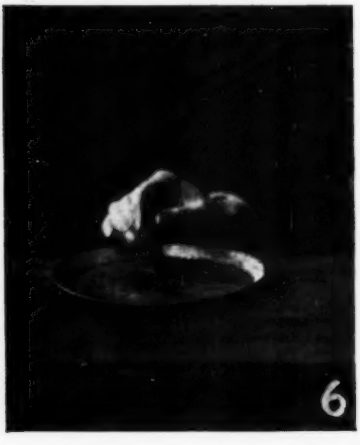
driven all air from the top of the can above the liquid, and this space contains only gasolene vapor unmixed with air. The gasolene vapor takes fire and burns at the mouth of the can in exactly the same manner as gas burns at a gas jet.

Fig. 2 shows how the flame may be extinguished without trouble or danger by dabbing the mouth of the can with a handkerchief. Even a quick stroke with the bare hand will often suffice, and such was the method used to extinguish the flame after some of the experiments illustrated.

The experiment shown in Fig. 3 makes one think of that incident famed in the joke book, "Bridget" lighting the fire with kerosene. Had Bridget taken the cap off the can she would not now be numbered with the angels. Since kerosene evaporates more slowly than gasolene, the top of a kerosene can is likely to contain an explosive mixture of kerosene vapor and air. If the mouth of the can be open, there is ample exit for the products of combustion should such a mixture take fire, although the agitation of the contents due to pouring will usually cause the formation of enough vapor to drive the air from the top of the can. In performing this experiment a small quantity of gasolene was poured upon the top of the lower can to accentuate the flame. This gasolene is ignited and the liquid is poured from the spout can directly through the flame into the other can. A moment's consideration will show that there is not the slightest danger in the performance of this experiment. The stream of gasolene will ignite, but it will be extinguished so soon as it passes into the

lower can, where it is out of contact with the air. The gasolene on top of the can soon burns itself out, and the flame at the mouth of either can is readily extinguished by a stroke of the hand.

This experiment is, in a way, the clue to the cause of many gasolene stove fires. Filling the stove while the jets are burning is not to be recommended, but when it is done and a small quantity of the liquid is accidentally spilled, the flame is sure to rush to reservoir, and the frightened individual filling it drops the can and flees. A conflagration naturally follows, and the newspapers report it as a gasolene explosion, when it is very unlikely that an explosion took place. It is a gasolene fire due to carelessness and ignorance of what to do in an emergency of this kind.



You have probably heard the oft-quoted fable of gasolene fires due to the spark from a lighted cigar or a lighted cigarette. Try as hard as you will, you cannot ignite gasolene or its vapor with the spark of burning tobacco unless a flame be present. The pan in Fig. 4 is half full of gasolene, and I am smoking a cigar as fast as I can with the end held just over the surface of the liquid, as is shown by the smoke. In Fig. 5 the experiment is shown repeated with a cigarette. It is simply a question of too low a temperature in ember of the tobacco to ignite the hydrocarbon.

Fig. 6 shows a lighted cigar being plunged into the same pan of gasolene, and in Fig. 7 the same cigar has been lighted and is flaming on account of the gasolene it has absorbed. If the flame is blown out, the cigar will smolder, but will not flame up again.

The cigar in Fig. 8 has first been lighted, and when it was burning nicely it was saturated with gasolene by dabbing the liquid on with the finger. Being accustomed to the taste of gasolene, the writer suffered no inconvenience from the added flavor. The photographer gracefully declined when I offered to add a similar bouquet to the cigar he was smoking.

The most effective way to extinguish a gasolene fire is with a substance that will stop access of air to the combustible, *i. e.,* smother the flame. Since gasolene is lighter than water, it will float on the surface of the latter, and an attempt to extinguish it with water usually results in spreading the flame. In Fig. 9 is shown a small quan-

9

10

tity of gasolene floating and burning on top of water. A forcible stream of water will, however, practically blow out the flame and prevent, by wetting surrounding substances, the spread of the fire to them.

Flour, earth or sand will absorb the liquid and prevent it from spreading, as shown in Fig. 10, where a gasolene fire is being extinguished with flour. Aqua ammonia is also a good extinguisher for gasolene fires, and a large bottle of it dashed upon the floor of a room will often put out quite a stubborn blaze. It is scarcely advisable to remain in a room in which any quantity of ammonia has been set free.

While the foregoing experiments show that many of the assumptions in regard to gasolene are unfounded, the writer has no intention of claiming that gasolene should not be handled with care. A gasolene can will explode if it contains a few drops of gasolene and a

large quantity of air, and such an operation as warming an empty gasolene can before a fire is likely to result in an explosion. A tightly closed can containing a quantity of gasolene, if exposed to heat, will have pressure generated therein exactly in the same manner as steam is raised in a steam boiler, but at a much lower temperature. If this pressure exceeds the strength of the vessel, it will burst, but should no flame be present a conflagration will not follow. If a large quantity of gasolene escapes from a leaking vessel into an enclosed space such as a room its vapor will in time fill the room with an explosive mixture with the air, and if this mixture be ignited a disastrous explosion is sure to follow.

Gasolene fires pure and simple, without the element of explosion, are most productive of the disasters due to gasolene. Like water, a quantity of gasolene spilled upon the floor will spread over a large space, and if accidentally ignited the flame will cover the entire surface in an exceedingly short space of time. It is in this rapid spread of the flame that lies the chief danger from a liquid fuel. If it is spread upon merely an open space where there is nothing above it for the flame to ignite, the best way is to leave it alone, as it will burn itself out and not even char the board. If there is danger of the flame coming in contact with anything above it, it should be smothered with cloths, blankets, loose sand or earth, or with flour. Water should be used only as a last resort, and with the greatest caution, so as not to cause the fire to spread.

For storing gasolene the tank should be placed so that it will be kept comparatively cool and on no account exposed to the direct rays of the sun. This is not so much to prevent danger from fire as it is to prevent waste from evaporation. Probably the most convenient and effective way of storing gasolene is to bury the tank about a foot below the surface of the ground. It then may be piped to a pump in the stable or garage, and all pipe connections should be carefully made and the threads lubricated with soap or painted with shellac or some substance that will not be attacked by gasolene. Leaks should be avoided not only to prevent waste but also to prevent the escape of any great quantity of vapor into any enclosed space where it may form an explosive mixture with air.

In case any great quantity of gasolene is to be handled no flame of any kind should be in close proximity, not that there is any danger in the simple operation of pouring gasolene from one can to another in proximity to a flame, but the danger comes from likelihood of the gasolene being spilled and forming a highly inflammable surface.

There is, however, no necessity of handling gasolene with the same precautions as one would take with gunpowder, as the two substances are by no means analogous. The same precautions that are usually taken with kerosene are generally sufficient, the only difference between the two substances being that gasolene evaporates more rapidly at ordinary temperatures. No one would think of filling a burning lamp with kerosene, especially if the vapor were so volatile as to almost instantly reach the flame of the lamp and take fire. Again, if a kerosene lamp takes fire one does not usually run from it, but tries to throw it out doors as quickly as possible. It should be remembered that, if a vessel containing gasolene takes fire and there is any danger of explosion will occur immediately following the ignition, and not later, and it is foolish to run away. The proper thing to do is to make every effort to get the vessel out doors, and it should be carried by walking backwards so that the flame will not burn the operator. As, for instance, if the vessel is a pail that is being carried on a poker. In conclusion, it may be said that a little horse sense in an emergency of this kind does a great deal more good than a whole lot of fuss.

When the Speedman Passes By

There's a light at last in the sable mist, and it hangs like a rising star
On the border-line 'twixt earth and sky, where the road runs straight and far;
And strangely sounds from hill to hill, in a vibrant monotone,
A distant voice—a shrill, wild note like trumpet warning blown.
'Tis the record breaker, and well 'tis named, for behold! from out the night
It comes and darkly a-down the road it looms to the startled sight—
Larger, near, nearer yet—till at last there's a rush and roar,
A wave of heat, and a gleam of red from the innkeeper's open door;
Then the quick report, the checkers' note—and our hearts beat fast and high,
When sudden and swift through the shadowy mist the record breaker passes

Automobiles and the Law of Negligence

By John F. Couch

IN his treatise on the law of Torts, Judge Cooley, commenting on the somewhat illogical fact that modern progress induces litigation rather than restrains it, truly says:

"The increase in intelligence, and especially the new inventions and improvements which follow it, have a powerful tendency in the direction of creating new wants and desires, and establishing people in new occupations, and as these increase, the interests, desires and passions of men must necessarily breed more frequent controversies."

The desires and the passions of men are certainly breeding more frequent controversies if the increasing number of damage suits for personal injuries is a criterion. In fact, such suits—negligence cases, they are technically termed—have grown to such enormous proportions since the advent of electricity as a motive power, that, in the city of New York, the court calendars are congested beyond the power of the judges to properly dispose of them. Like the hyacinth that obstructs and prevents navigation in southern rivers, these cases, by their number, delay and often defeat justice in cases of more public importance. Not half the claims presented for damages for personal injuries reach the courts. The majority are compromised and settled by the corporations and individuals against whom they are made, or by the insurance companies who have insured the "wrongdoer" against liability for damages. Not infrequently it happens that the claimant, finding settlement easy in one case, becomes the claimant in others, as a convenient way to make a living without work.

Whether or not the automobile will greatly increase the number of damage suits is a question for the future rather than for the present. The chances are that, with the general adoption of the self-propelled vehicle for business and pleasure, the number of accidents will increase, and that the number of damage claims and suits for real and fancied injuries will increase in proportion. As yet the automobile has not been the means of establishing any new or novel principle in the negligence law, and it may be doubted if it will. It will call, however, for the application of more existing principles than any other kind of conveyance now or hitherto in use; and the most important of these, regarding the automobilist as the aggressor, will be found under the following sub-divisions of the Law of Negligence: "Defective Machinery," "The Law or Rule of the Road," "Contributory Negligence," "Principal and Agent" and "Master and Servant."

Not all of the States agree in the application of these principles in many like cases, which is due to the fact that statutes and judicial interpretations of the common law differ. These differences will not be found of such moment as to warrant the fear in any tourist that his liberty is in jeopardy while engaged in interstate travel. His greatest danger lies in exceeding the speed ordinances of the locality in which he happens to be. And as these vary in accordance with local whim and will, the tourist must constantly twist his tongue into an interrogation point. To explain the differences in the law of the various States as affecting negligence would be to write a text. In an article of this kind, it would seem best to set forth only principles of general or nearly general application.

With the growing variety of automobiles, some of the "freak" order, there is no question more important to the owner than that of

Defective Machinery.—The owner owes it to the general public, quite as much as to himself, to use only a machine in which there are no discoverable defects. In purchasing he should select the machine of a reputable dealer or maker. Whether it be new or old it should be thoroughly tested and examined in all essentials, that any defects discovered may be promptly remedied. Before a trip examination should be made by some competent person to see that the machine is in good running order. If this be omitted or the repair of some discoverable defect be neglected, and injury to a third person thereby result, there is negligence on the part of the owner or attributable to him. If this negligence be established on the trial of a suit, it only remains for the jury to determine the amount of damages. Repairs should be made by one whose knowledge and skill have passed the experimental stage; in fact, it has been held in many cases that repairs to machinery should be made by a person of known reputation. In case of a breakdown or of injury to some part essential to the proper running of the machine, and temporary repairs are made, the operator must thereafter proceed with the greatest caution and care. Trusting to luck is dangerous alike to health and purse.

When there are latent, undiscoverable defects to which an injury may be due, there is no liability, as there is no negligence. The law does not impose the impossible on any one. If the maker sells a machine in which there are defects which he knows or might reasonably have discovered, he is liable to the purchaser for any resulting injury, but, generally, he is not liable to a third person, unless the defect was so highly dangerous as to make it negligent to place the machine on the market, and if there is negligence on the part of the purchaser or

his servant in the use of the machine, the maker would not be liable at all.

THE LAW OF THE ROAD.—Throughout the United States and in Canada, with the exception of the Maritime provinces, the rule of street and road travel is, "Keep to the right." This applies to general driving on public thoroughfares, and especially to meeting and passing vehicles proceeding in the opposite direction. By the statutes of some of the States it is necessary to turn to the right of the center of the *worked* part of the road and not to the center of the *smooth* or *most traveled* part. If one is on the wrong side of the road, and collision with an opposite vehicle results, there is a presumption of negligence on the part of the former. But the presence on or use of the wrong side of the road is justified where it is dangerous or impossible for the time being to keep on the right. Roughness of the right side is not a sufficient excuse to use the left. It is generally held that, though one be on the right side of the road, he will be liable if he recklessly collides with a passing vehicle on the wrong side, for it is his duty to use reasonable care under the circumstances to avoid injury.

In passing vehicles going in the same direction, there is no general rule as to the side to be used. City ordinances usually provide that an overtaking vehicle shall pass the overtaken vehicle on the left side; but one may pass the other as he prefers at the risk of any injury inflicted or received to which the leader does not contribute. The preceding vehicle is not bound to give way, unless there is not room enough on either side to pass, and then only on request.

In the old city of New York, comprising the present boroughs of Manhattan and the Bronx, it is provided by ordinance that vehicles going in a northerly or southerly direction shall have the right of way over any vehicle going in an easterly or westerly direction. All municipalities provide that ambulances, fire and police vehicles, when in the performance of duty, shall have a superior right of way. Mail wagons, when engaged in the transportation of the mails, have a like right of way. Street railway companies have a paramount but not exclusive right to the use of that part of the streets occupied by their tracks. Others driving on them must not recklessly or negligently obstruct the passage of cars.

In proceeding along much traveled streets and thoroughfares, reasonable care must be exercised to avoid collision with vehicles and pedestrians, and speed must be moderated to suit the circumstances. Special care is required in turning corners and in crossing streets,

especially where there are pedestrians. Where there are children in the street the same care must be exercised. Vehicles generally have no paramount right to pedestrians, and the latter may cross the street at any point and on any part. As between them, care and caution are mutual.

Though automobiles have an equal right to the use of the roads and streets with other vehicles, that right must be judicially exercised. It excludes careless operation, unnecessary close approach to horses and uncalled-for tooting of the horn and clanging of the gong. If horses are frightened by such acts and injury result, the operator or owner of the machine is liable. In country districts where horses are unaccustomed to the noises and conditions of cities, the automobilist owes it to himself to proceed with extreme caution. The law does not require this, but rural horsemen regard it as their due. To them a frightened horse, a scratched cow or a maimed chicken appears as an infraction of the Constitution, and presents a problem in arithmetical progression to be worked out with a piece of chalk on the barn door.

CONTRIBUTORY NEGLIGENCE.—Broadly this may be defined as the negligent doing or failing to do some act, the doing or not doing of which has contributed to the injury sustained. Its existence prevents the recovery of damages, "on the principle," as Cooley says, "that no man shall base a right of recovery on his own fault." But—to quote from the same writer—"when the conduct of the defendant is wanton and wilful, or when it indicates that degree of indifference to the rights of others which may be characterized as recklessness, the doctrine of contributory negligence has no place whatever, and the defendant is responsible for the injury he inflicts irrespective of the fault which placed the plaintiff in the way of such injury."

If the operator of a machine does not avoid a collision he might reasonably avoid; if he engages in unlawful racing; if he crosses a railroad without *looking and listening* for trains, or, as in some States, without *stopping, looking and listening,* or if, in any case, he fail to exercise the care and caution which a prudent man would reasonably exercise, and is injured as a result of any of these acts or omissions, he is guilty of contributory negligence, and has no legal claim for damages.

Negligence, however slight, that contributes to the injury of a third person makes the contributor equally liable with the principal wrongdoer, and the injured person may sue either or both.

MASTER AND SERVANT.—This is the technical term used in pref-

erence to employer and employee. The duties and responsibilities of the master are not the same in all of the States, but, for present purposes, it may be said that in general the duties of a master are to instruct his servants respecting any dangers not ordinarily incident to the business and even as to dangers ordinarily incident to it when the servant is young or inexperienced, and not likely to discover the dangers by the exercise of that care that might properly be expected from him. The master should furnish a reasonably safe machine, appliances and tools, and should see to a proper inspection of them from time to time. He should supervise the work of his servants or delegate the power to some competent person. He should give notice of any known defects in the machine, make rules or give proper instructions as to the work to be done where there are many employees, and should select competent servants and see that they remain competent. These rules should be carefully observed so far as the peculiar relation between employer and chauffeur demand. While the chauffeur is, in the majority of instances, the superior in knowledge and skill of the employer, and often the instructor, the latter is not relieved from the duty of supplying a reasonably safe machine or of making known any defects that come to his knowledge.

It is a general rule that the servant assumes the ordinary risks of his employment and the particular risks that might be discovered by the use of ordinary care. It is also the rule that if a servant with a knowledge of defects in a machine, tools and the like remains voluntarily in his employment he assumes the risk. If one servant be injured by the negligence of a fellow servant not his superior in the particular work in which they are engaged, the master is not liable. If the master delegates his authority to one servant who directs the work of other servants, the master is liable, on the principle that "he who acts through another acts through himself." If the attention of the master be called to a dangerous defect, and he promises to remedy it, the servant may, without assuming the risk of his employment, continue a reasonable time, unless the danger be such as to preclude a prudent man from exposing himself to its hazards. If the danger be uncertain to the servant, and he accepts the assurance of his employer that there is no danger, it has been held that the servant relieves himself of the risk.

In a few of the States, contracts made between master and servant, limiting or waiving liability on the part of the master *before* an injury to the servant, are declared void either by express statute or by judicial construction of the common law. In all the States such a

contract is void where an injury results in death, and a right of action exists in the widow or next of kin. But, as between master and servant alone, a contract of this nature which is fair and reasonable, and which does not exempt the master from gross negligence or wilful and malicious injury, and is not forbidden by statute, will be pretty generally upheld. Such contracts, however, should be prepared by a lawyer or by one with a full understanding of the essentials of a contract.

PRINCIPAL AND AGENT.—As between employer and third persons, the servant of the former is his agent while doing the employer's business and acting within the scope of the employment. It matters not that the servant or employee is not properly carrying out his instructions or that he is personally negligent. If he injures a third person, the employer is liable. The importance, therefore, of employing a competent and reliable person to operate an automobile is evident.

As supplementing this point it may not be amiss to point out the advantages of always carrying what is known as a "public liability" policy of insurance. Though the great majority of injuries are non-fatal, they are frequently as expensive as if they resulted in death. The advantage of the policy comes not alone from assuming liability to the amount named in the policy, but from the fact that the particular company, as soon as it receives notice of an accident, places its adjusters on the case, procures all material statements as to the cause and happening of the accident, and endeavors to effect a settlement with the injured person or persons. It also defends suits at its own cost and expense, thus relieving the assured of the trouble and worry consequent on accidents. This policy is usually written with a limit of $5,000 for injury to any one person, and $10,000 for injuries to two or more persons the result of any one accident.

ORDINANCES.—Of themselves, ordinances do not create any civil liability for injuries sustained in their violation. They are penal in their operation and effect, and violations of them constitute misdemeanors, the punishment for which may be fine or imprisonment or both. But the violation of an ordinance resulting in injury is *prima facie* evidence of negligence. Justification may be shown as a defense, as, for instance, where obstructions in a street prevent keeping to the right, or where the speed limit is exceeded going down a hill due to a defective brake, the defect in which was not known or could not reasonably have been discovered. In these and similar instances, how-

ever, the question of negligence always exists, and, in the trial of a suit, the question is one for the jury to determine, and a jury's decision is an unknown and uncertain quantity.

Finally, it may be said that every automobilist owes it to his brethren to give due respect to existing laws and ordinances. The reckless conduct of one works to the prejudice of the others, and, with the multiplication of reckless instances, the general public will demand and get legislation that will be repressive in its severity upon all motor vehicle users.

The Longest Way 'Round

A signpost at the forked road
  Of Time stood grim and gray,
And to that post a tourist strode,
  In doubt which way to go.

One road led up the stony hill,
  The other road led down;
The downward road to Luckyville,
  And up to Hardshiptown.

Toward Luckyville he then made pace,
  Yet even as he turned
A traveler coming from that place
  His hopeful eyes discerned.

He waited till the other came
  The steeper road to take,
"Is Luckyville," he said, "so tame
  That you its joys forsake?"

"Not so," the stranger quick replied,
  As up the hill he went;
"That sign was wrong; I know who've tried
  The rash experiment."

"I'm going up this stony hill,
  Already I've coasted down,
And find the way to Luckyville
  Is 'round through Hardshiptown."

The Wonderful Horseless Chaise

IN *The London Magazine,* or, as its title page has it, *Gentleman's Monthly Intelligencer,* for August, 1769, appears, according to the table of contents, "A Curious Print of a New-Invented Machine, to go on the Road without Horfes." That this invention of one hundred and thirty-three years ago was one of the very first attempts to get rid of the horse as a power producer there can be no doubt whatever, but the effort was not along entirely original lines since a man was substituted for the animal to the improvement of neither the supplanter or the supplanted.

You will note in the following reproductions of the original pages of *The London Magazine* that writers even at that early date thoroughly understood the art of writing a trade puff and of saying much without saying hardly anything. Did one desire to be hypercritical of this account of the step-parent of the modern automobile, it might be said that the writer, one John Vevers, a master of a boarding school, rather set a bad example to his scholars in appending an N. B. to his story, and in the appendage making the decidedly untrue statement that the speed of this manumotive depended upon the activity of the manager thereof.

As the sole performance of the manager seems to have been given over to steering the vehicle while the human motor at the back labored and supplied the driving power, just how any activity on anyone's part but his could add to the vehicle's speed is a problem which we fear no one else will be able to solve offhand as did John Vevers, Esq.

The story and the drawings form an interesting link in the chain of experiments which has finally terminated in the producing of the modern automobile, and for this reason we have reproduced illustrations and letter press just as they appeared a century and a third ago.

As showing the queer whirly-gig of time it is of interest to note that this "horseless chaise" of a century and more ago is to-day in a modernized form in use upon the streets of Berlin, where vehicles almost identically the same ply for hire, the power for propelling them being supplied by the sturdy muscles of a man. Verily, it is but another illustration that there is nothing new under the sun. Even the history of the automobile, short as it seems, is but a modernizing of efforts and ideas which have the dust of age deep upon them.

Mechanical Projections of a Chaise to travel without Horses.

Fig. C

Fig B

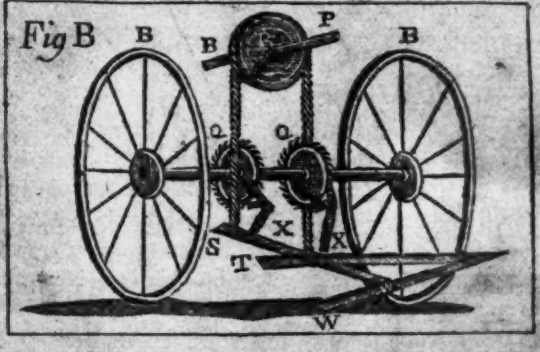
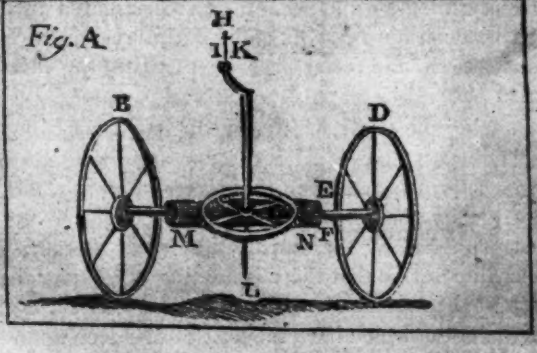


Fig. A



THE converſation of the public having been ſo greatly taken up with a machine to move without horſes, we are perſuaded the preceding plate, with the following explanation, will be not a little agreeable to our readers.

Mechanical Projections of the Travelling Chaiſe without Horſes, ſhewing plainly by Inſpection the Conſtitution of theſe Machines,

By JOHN VEVERS, *Maſter of the Boarding-School at* Rygate *in* Surry.

IGNORANCE of mathematical ſciences makes mechanical problems appear abſtruſe and aſtoniſhing to thoſe who are not exerciſed in mechanical ſtudies.

For to find out an unknown hypotheſis, required, amongſt a confuſed infinity of others, to be accuſtomed to diſcern the proportions, and the force of mixtures; to take a right method in reſolving the moſt intricate and perplexing propoſitions, is to have the mind well cultivated and clear in geometry, arithmetic, aſtronomy, and mechanics, which are keys to unlock the underſtanding and ſolve the greateſt difficulties. Therefore, upon the above-mentioned principles, the conſtruction of theſe carriages are here demonſtrated.

A Deſcription of the firſt Scheme A.

THE hinder wheels B, D muſt be large and firmly fixed to their common axletree E, F, that one cannot move without the other.

Put a trundle-head with ſtrong and cloſe ſpindles round the middle of the axletree E, F, and near to that fix upon the beam a notched wheel G, the notches of which may catch the ſpindles of the trundle-head, and ſo in turning with the handle H, I, K, that wheel round its axletree K, L, which muſt be perpendicular to the horizon, it will turn the trundle M, N, and with that the axletree E, F, and the wheels B, D, which will thereupon ſet forward the chaiſe without horſes, or any other animal. Obſerve the axletree muſt enter into the beam, in order to turn within it.

A Deſcription of the ſecond Scheme B.

The contrivance of this machine is as follows, but put in motion by a foot-man, which makes it go with his two feet alternately, by virtue of two little wheels hid in a box between the two hind wheels A B, *figure C*, and made faſt to the axletree of the chaiſe.

The little wheels in the box are Q, Q,—in *figure B*, and P, P is a roller, the two ends of which are made faſt to the box behind the chaiſe; R is a pulley, upon which runs the rope that faſtens the end of the planks S, T, upon which the footman puts his feet.

W, W is a piece of wood that keeps faſt the two planks at the other end, allowing them to move up and down by the two ropes P, T, and P, S, tied to their two ends.

X, X are two little plates of iron which ſerve to turn the wheels Q, Q, that are fixed to their axletree, which is likewiſe fixed to the two great wheels B, B.

Thus you will readily apprehend that the footman putting his feet alternately upon T, and S, one of the plates will turn one of the notched wheels.

For example!

If he leans with his foot upon the plank T, it deſcends and raiſes the plank S, which cannot riſe but at the ſame time the plate of iron that enters the notches of the wheel muſt needs make it turn with its axletree, and conſequently the great wheels.

Then the footman leaning upon the plank S, the weight of his body will make it deſcend and raiſe the other plank T, which turns the wheel again; and ſo the motion will be continued.

You may eaſily imagine, that while the two hind wheels advance, the fore wheels muſt likewiſe advance; and that theſe will always advance ſtraight, if the perſon that ſits in the chaiſe manages them with reins made faſt to the fore-beam.

N. B. The velocity of theſe carriages depends upon the activity of the manager.

Progress Through Enterprise

By Robert Bruce

FROM whatever point of view we consider the current progress of automobilism, one factor comes inevitably to the front as the essential and predominant mark of the whole. That factor is enterprise, which has come to be both the mainspring and motive power of the American sport and trade. National pride and energy, linked with the capacity to achieve, have simply found another avenue of expression. These characteristics are showing themselves in so many ways as to challenge the completeness of any listing of their activities and effects, direct and collateral; but they are written all over the calendar of 1902, and will be still more conspicuous throughout 1903.

At the present writing, the forces of the trade are making ready for the New York show, to be held at Madison Square Garden, January 17-24, followed by the Western exhibition at the Coliseum, Chicago, February 14-21. The demand for space has been unprecedented in both instances, obliging late applicants to content themselves with locations considered only semi-desirable when there has been ample room for a smaller number. It is proposed to move the exhibits from East to West by through special train, saving the otherwise large number of separate shipments and reducing the chances of delay en route to many of them. Such a plan would not only be economical in the end, but it would contribute some useful publicity to the associated exhibitions and stand as an example of trade-wide co-operation for the general good.

The work incidental to the promotion of the tests and contests of the year has been shared alike by the manufacturers, clubs and specially interested automobile public, with plenty of credit for each. Reliable data has been gathered on many subjects for the use of the friends and the possible discomfiture of the enemies of the motor vehicle. A new era of road information has come for the benefit of the tourist, with the former facilities for storage, repairing and supply greatly augmented and extended. Accurate and readable road signs are on the way in many sections; and numerous other projects tracing back to the same all-around and restless enterprise.

The same progressive spirit is working its way in all directions, especially westward. Automobile clubs have been organized and minor events scheduled in Milwaukee, St. Paul, Minneapolis,

Omaha, St. Louis, Kansas City, Topeka, Memphis and elsewhere in the great mid-continent. The Pacific Coast is already in line, and the missionary leaven planted in the South. The result of this expansion is to be a permanent addition to our national sports and recreations. Enterprise, which is both contagious and cumulative, hath no boundaries to its field.

Some pretend to see an element of danger in the rapidity with which history is being made in the sport and trade nowadays, and the rise and fall in popularity of the bicycle is quoted at times as a warning note. But enterprise of the right sort is the surest preventative of any such result—to say nothing of the immeasurably broader and sounder basis here presented. It draws, on the other hand, public strength and support to itself, with which any movement is all-powerful and continuously successful in its aims. When the bicycle could no longer command this favor and interest, it suffered a decline, and enterprise was snuffed out—to find a permanent abiding place with the new forces of automobilism.

By Lynn R. Meekins

SOMERS crawls partially up a hill, like a laggard satisfied with the view of the valley below and too lazy to keep on to the summit. The railroad is five miles from the town and the electric light and the occulist have not moved in—as they usually do—together. So Somers is cut off and happy, or rather it was happy, until Merlin Duke returned from college and travel, and settled down to keep the family name alive in the place of its achievements. His people had made some money—a fortune in the arithmetic of Somers, but a bagatelle in modern comparisons—and he invested a part of it in an automobile, a four-seated affair that showed hospitable intent.

Then Somers began to suffer. The innovation stimulated the curious, but it made the judicious grieve. "The steam engine wearing gum shoes," as a native called it, awoke the sleepy old

horses of the neighborhood with interesting results, and caused their owners and drivers to threaten dire vengeance upon the young man who did all he could to get out of town on his rides by the side streets, so as to avoid meeting the transportation interests of the community. The trouble came when they also used the side streets to get out of his way.

Then he took boldly to the main road and went ahead with caution and prayer. But when he struck the fine thoroughfares that led out of the town to the beautiful country around, he made up for lost time and skimmed along with delight. He was a dreamy sort of a person when the spell of nature was upon him, despite his good six feet of muscular and handsome masculinity, and occasionally he forgot the care which he tried to exercise so faithfully; so when he turned a corner of the road leading to the valley and suddenly saw a big bay horse apparently trying to climb a tree, while a white-haired gentleman leaped from a low carriage and held the animal partially in check, it took him a little longer than usual to come to a stop and to jump to assistance.

"Doctor—" he gasped.

"Don't speak to me, sir. Never speak to me again. I'll have the law on you—you and that infernal thing."

"I am very sorry—very sorry," protested Merlin.

"I don't care what you are—I don't give a continental for any of your sentiments. Just get that thing away from here—and never speak to me again, sir—never again."

Merlin got in "the infernal thing" and wheeled down the hill as gently as he could, carrying in his own mind a whirling mass of sensations.

He took the short cuts around the edge of the hill so as to get back home as soon and as safely as possible, and presently reached the lane where there is much walking on good days and little driving. Sauntering along was a young woman, tall, straight, with a glow of health and a touch of beauty in her face—a girl who was graceful in every movement, and who looked that spirit of self-reliance which asks no protection anywhere. When he overtook her he stopped and spoke.

"I fear I shall not be able to keep our engagement to-night," he said dismally.

"Why? What has happened?" she asked quickly.

"The very worst," he replied.

"Is your uncle ill—or—dead?"

Merlin could not repress his smile. His uncle lived in the city and was very rich, and he expected to be his heir.

"Worse than that," he said. "I frightened your father's horse and he has forbidden me to ever speak to him again. Oh, no," he hastened to add, anticipating her question by her look of alarm, "he was not hurt, but it was a bad mix-up."

He wished she would say something, but she was thinking, and he knew she worshipped her father.

"Good afternoon," she said.

"Is that all?" he pleaded.

"I don't know," she answered, "but for the present, good afternoon."

Merlin Duke rolled sorrowfully homeward. He would send that automobile back to the city and have it sold. It had cost him much in local prejudice; it should not cost him the love of Caroline Mason. It was she really whose beauty had drawn him back to Somers with its loneliness. Their schoolday attachment had lingered with him through his years like an old melody. He liked the doctor, too, a fine type of the village physician, who constantly lays up treasures in heaven because so many of his patients die without paying their bills. Still, the Masons had money, and Caroline Mason had enjoyed the best advantages. Ever since Merlin's return he had sought to bring back the full feeling of the childhood days, but a female at twelve and the same female at twenty are two very different propositions, and Merlin did not know whether he was making headway or not. If he had done so, he was now quite sure that all the advantages had been lost. "It's a tumble down hill," he declared, throwing his hands behind his head and looking toward the ceiling.

Yes, he would sell that motored causer of his troubles, but not yet—not quite yet. He would keep it a week or so longer anyway, for the roads were fine and he had some friends coming up on Sunday, and he wanted to show them the country.

Merlin Duke repented this procrastination. The church which Dr. Mason and his family attended was located on a hill that commanded a perfect view of the surrounding land, and there was quite a stretch of road, some distance away, which swept along in plain sight of the congregation. The Rev. Henry Brewster had served the church for several decades and the conservatism of Somers and of time was incarnated in his mental equipment. He firmly believed that the times were out of joint, because they were so far

ahead of him and of Somers. So, that morning in his sermon upon "Whither Are We Drifting?" he piled on his comment thick, if not fast.

"Instead of the Sunday of our forefathers, what have we?" he asked. "A pleasure day, a day of frivolity, a day of thoughtlessness, a day of anything but rest. We of this peaceful village are happy in the fact that the worst of the evils have not reached us, but let us not be too sure of our escape. Already—already, I say—the machine has invaded our peaceful streets—the machine that goes by power, such as we might run mills and factories by, and if the automobile, why not the mills and factories? See it as it glides along without regard to Sunday or—"

As luck would have it, Merlin and his friends struck the piece of road in view of the congregation just at this moment. That indefinable impulse which runs through crowds told the congregation to turn and look out of the windows. Merlin was near enough to be seen, but the church was not within hearing distance, and so he was blissfully ignorant of the curiosity he was exciting. Urged by his guests he began to show what the big vehicle could do, and then there followed several very interesting performances. He stopped it suddenly; then he started it with the same unexpectedness; then back quickly and accurately alongside the low grass bank which marked the sidewalk. Again he started suddenly, and turned the vehicle around in less than half the width of the road, ending with the vehicle headed the other way at the sidewalk. During these fatal moments the people of the congregation had the hardest time of their lives. Between trying to look at the preacher and squinting at Merlin's doings, a large part of the town's population came near being cross-eyed.

And sitting in a pew near the front was Dr. Mason, sternly digified and outraged, and next to him was his daughter, Caroline Mason, who, feeling the progress of the tragedy, kept her eyes fixed upon the pulpit and felt the blood burning her cheeks.

Reports of the sermon, duly exaggerated, reached Merlin, and added to the exasperation he had felt over the accident to Dr. Mason's horse. But somehow the thing that hurt most was the fact that he had "performed" in plain sight of the congregation. He did not mind the abuse, but he did mind very much the possible impression that he was something of a fool. All this should have made him ship the vehicle away at once—that is, of course, if logic always regulated human beings and directed their first de-

cisions—but it had a different effect upon Merlin. The stubborn trait in the Duke character began to develop. He struck his fist upon the table and exclaimed:

"I won't sell and I won't go. I'll stay right here and I'll convert this town to reason."

Merlin was clever. He studied human nature. So he pondered the situation and laid out his plans as carefully as if he were going to conduct a campaign against an enemy. He did it well, too.

First he began with the boys. He took loads of them riding. Then the school girls had an opportunity to enjoy a new experience. There was a little cripple on the edge of the town; he took him out for several airings. Old Tom Boxer hobbled three miles from his house in the country to make baskets in town. Merlin happened along and made him crawl in and gave him the ride of his life all the way home. Within a week Duke could have run for the Legislature, with fair prospects, but his victory was by no means won. Dr. Mason passed him on the street, and Merlin said under his breath, "All right; if there is ever any speaking you'll have to begin it." Miss Caroline did not avoid him, but there was a formality in her manner which he understood.

Sunday came around again and Merlin did not care to go to church after the disquisitions of the Rev. Mr. Brewster, although he had intended going because Bishop Trenham was to preach—for Barry Trenham, the bishop's son, had been one of his classmates. So about ten o'clock he moved off for a morning ride. The full glory of the day—a fleckless sky, a quiet air, and an inviting temperature—helped him to be at peace with most of the world. He had no special plan in his day's outing, but, about eleven o'clock, he found himself on the road leading to the railroad station. He had gone a little more than half the distance—about three miles—when he looked ahead and beheld a breakdown.

Drawing closer he saw two clergymen gazing in solemn perplexity at a broken axle. In a few minutes more he found that the Rev. Mr. Brewster had driven over to the station to meet the bishop, and that this disaster had befallen them most unhappily both in time and place. They were two miles from the station and three miles from Somers, and the services should be under way.

"Bishop," said the young man dismounting and moving toward the elder man, "you may remember me."

"Why, bless my soul," exclaimed the Bishop, "it's Merlin; of course I remember you, and fortunately for us you happened along

when you are very badly needed. Did you notice whether or not the congregation had assembled?"

"The church is crowded," said Merlin, "and you must not lose any time. Get right in—you and Mr. Brewster, and I'll have you there in ten minutes at the outside."

Before they could reply he was dragging the broken carriage out of the road and was tying the horse to one of the trees in the woods near by. "They'll be all right for an hour or so," he exclaimed, as he returned quickly to the automobile.

The Rev. Brewster was standing near the softly panting monster, full of doubts, full of uncertainty, full of something that bordered on dismay.

"Get in," said the bishop.

"I—ah—"

"Get in, Mr. Brewster, commanded Merlin. "We haven't any time to lose."

"I think I'd rather walk," said Mr. Brewster.

But the bishop had stretched forth a hand to help him, and Merlin gave him a good shove, and before he exactly realized what was happening, the good man was traveling along the road at a gait which his very proper old horse had never known, and which he himself had never experienced except on a railroad train.

There was not much time for conversation, for Merlin was determined to get them to the church not only quickly, but without accident.

The crowded congregation waited patiently, looking most of the time at the stretch of road which the minister would have to use from the railroad station. They put the delay on the lateness of the train.

Suddenly they saw Merlin's big vehicle shoot along the stretch as though pursued by some foe; it seemed little more than a flash, so quickly was the distance covered. Then, in less time than it takes to tell, Merlin has ascended the hill. As he turned the corner he slowed down, but when he drew near the church the worshipers simply gasped at the sight of their pastor and of the bishop himself sitting upright in the thing that had been publicly denounced from the pulpit by the Rev. Mr. Brewster, not taking into consideration the feelings of that most excellent gentleman, who was white with mental perturbations and nearly distracted with fears of what his flock might think of him. But by this time Merlin had them at the vestry door, and the ordeal was over.

Bishop Trenham was a broad-minded, whole-souled, admirable man, and his sermons took the wider view of life and conditions. His subject was "Progress and Religion," and he swept his audience along by his eloquence and enthusiasm.

"I am continually surprised," he said, "that many good people look upon progress and religion as antagonistic. If they are, my dear friends, then religion will have to get out of the way, for progress is certain. But in reality they go together. Take, for instance, the experience of your bishop to-day. If a bishop is good for anything, it is that he may reach the largest possible number of people. By means of modern transportation he is enabled to hold early morning service in his own church; he has the very great happiness of speaking to you at this hour; in the afternoon he will be miles away in another church, and at night he will reach still another town in time for the services. Or, let us go back to what we call the good old times. Perhaps we may fancy Washington, our first President, going to church. There is a big chaise to get ready, many servants—who have souls as valuable as yours—are required; there are outriders and all the whole retinue, simply to get a good man and his worthy wife to the house of worship, while the many attendants have to look after the horses, the chaise and other things. To-day we touch a match to a little wick, and off we go faster than Washington ever thought of traveling, so that not only the servants and the retainers, but the very horses themselves might attend church if such a thing were possible. Progress is thus resting the human race and giving it opportunities it has never known, and the time will come when these horseless carriages and these various benefits will be universal," and he went on in this strain until Merlin Duke felt as though his victory was complete—until he had the courage to glance at Caroline Mason ——and then, oh then, when he saw a bit of a smile playing around her lips, while the old doctor was fidgeting in his seat, his cup of joy was full.

Merlin remained after the services, as the bishop had told him that he wanted to see him again; so there congregated a little crowd consisting of the bishop, Dr. and Miss Mason, the Rev. Mr. Brewster and himself. The bishop and the preacher were to dine with the Masons. Dr. Mason was evidently pondering a great question, but before he could settle it in his mind, the bishop interfered:

"You'll excuse me for walking with Merlin," he said. "You

know he and my boy were at the university together, and I want to talk with him."

Thus the bishop and Merlin led the way and the others silently followed.

Yes, Merlin had a recent letter from Barry, who had gone to Alaska, and also letters from two of his associates. He gave the good bishop all the news they contained, adding fine things about his old classmate. They reached the Mason gate before all had been said; then Dr. Mason solved the doubt that had been bothering him.

"Mr. Duke," said the doctor, "won't you come in and dine with us?"

"Of course he will," put in the bishop. "I am not half through with him," and before the young man knew what to say, he was pushed through the gate and was on the Mason porch. He looked up and saw in Caroline's face a flood of merriment which threatened to break out in peals of laughter, and he blushed as he tried to smile, but for the minute he was clearly put out.

But he pulled himself together at the dinner table and the deep introspection which affected the speech of Mr. Brewster, next to whom he sat, gave him an opportunity to get his thoughts and his sentences in their proper order.

"Barry thought the world of you, Merlin," said the bishop. "He tried to get you to go with him, didn't he?"

"Yes, and I would have gone, but I had other interests which made me return to Somers."

"Well, he'll be back in a year, and then we shall have a reunion. You are sure the men said all those fine things about him?"

"I have the letters and I'll get them for you."

"All right. Be sure you do. Brother Brewster, how are we to manage about reaching Brookville for the afternoon service? It's a good eight miles, they tell me."

"I was just thinking," said Mr. Brewster, who had been doing little else.

"Be bold, be bold. Be not too bold," the saying of the philosopher ran through Merlin's mind. He would act upon it.

"Gentlemen," he said, "don't let that give you any uneasiness. I'll take you."

"Capital," replied the bishop. Mr. Brewster was quite beyond a protest. He had already been in the sinful contrivance, and he

knew that the man whom he had sent for his horse had not yet returned.

"And you'll go too," the bishop was saying to Miss Caroline Mason. "The doctor tells me he has patients to look after, and he must send you to look after us. I haven't had a minute to talk with you, and we can have a fine chat on the way while the other two sit in front and see that we don't run into anything."

This time Merlin wanted to explode with the emotions that filled him; his heart jumped with joy at the blushes in Miss Mason's flaming cheeks. He was happy. The tide had turned and everything was coming his way.

Nobody had time to express objections, and if they had the bishop would not have heard them. He was a man who knew what was right and who simply went ahead with his ideas.

It would take a very large book to chronicle the remarks of the good people of Somers after they saw the auto move off with its distinguished and astonished load, and Mr. Brewster did not draw an easy breath until they were out of sight of the town and on the roads that led through the woods. Then, with sublime resignation, he accepted his fate. It was delightful all the way. The beauty of the day had continued. The sky kept clear and lovely, and the air was almost still. At half-past three they reached Brookville and services began at four.

The good bishop drew Merlin aside, and looking him straight in the eyes said:

"You're in love with her?"

Merlin was too surprised to speak, but nodded and smiled.

"I don't blame you, my boy. She's charming," and before Merlin could reply the bishop was talking to Mr. Brewster, asking him if he would not remain with him for the service, and accompany him on the rest of his day's journey. Mr. Brewster, who had ambition for a larger place than Somers, beamed at the compliment and gladly accepted it. He knew its value.

"Well," said the bishop, coming to the young people, "I suppose you've heard enough preaching to-day, and you'd better return home. Mr. Brewster has consented to aid me here, and in Bordon in the evening, and we shall not be able to give you our company any longer. Good-by, and thank you both," and he was off to be in time for the service, for the congregation was now pouring into the church.

Between Somers and Brookville there is another route, prob-

ably a mile longer than the one taken by Merlin in the journey to Brookville. It leads through the vista of the pines. The trees have grown to great height and their tops almost meet. Perpetually, even when the wind is slow, they sing their lullabies. It is a soft, sweet, tender, almost sad monotone that seems like the whispering of dreamland.

"You are taking the other road," she said.

"Yes, it is so much prettier, and we have lots of time."

"The bishop is a delightful man," she remarked.

'There is none better in all the world. I've been at his house and you can know a man much better in his home than in the pulpit."

"Mr. Brewster, for instance," she said with a little laugh.

"Poor man! I pitied him."

"You acted very nicely."

"Did I? But that was quite easy. It was your father who almost bowled me over."

"You blushed, and it was awfully funny to see a great big man like you turn red."

"But it wasn't half as bad as when the bishop made you come on this trip. I don't believe you wanted to come," he said.

There was no reply.

"Don't you know, I think this stretch through the pines is the loveliest in the world," he said.

"Do you? Why do you go so much slower?"

"Because the motor likes it. Notice how quietly it sends us over the pine leaves—'pine shatters' they call them down South."

She was silent.

"I have always thought that I should like to meet the girl I loved along this road and to tell her how much I cared for her."

"Perhaps you may. I promise to turn my back and not to look or listen."

"I don't know about such things," he went on, "but I think I should say to her that all through the years from my first days at school until now, her face had been photographing itself deeper and deeper on my heart."

She laughed merrily. "That wouldn't do at all. The plate would be spoiled. This is the day of instantaneous photography, you know."

"Well, it's true all the same. But if that wouldn't do, I should

tell her that I have carried in my very soul the picture of her loveliness all these years."

"How many years?"

"Oh, fully ten."

"And that wouldn't do either. Fancy how she has changed in so long a time. You are carrying a picture that doesn't exist."

"But I've seen her, and she is lovelier and sweeter than ever, and my love has grown into something that fills all my thoughts and I—"

"Perhaps she may appear at the bend of the road," she interrupted.

The road wandered through a romantic wilderness of thickly grown pines and tangled bushes, through which the sunlight stole in vagrant ways. Birds were caroling; the trees were whispering and love was in the air.

He softly pushed the lever over to the slow speed notch, and when they approached the middle of the bend, he exclaimed:

"You are right. She is here."

"Where?" she asked.

"Right by my side, as she should be, as she always will be," he said, as his hand closed over hers.

There is no counting the miles when love is the odometer.

And when love and luck meet, every discouragement passes away, and all things happen well. Thus it was that when they reached home the doctor had a hurry call, and he was induced to accept the services of the automobile, and by quick action his patient's life was saved.

It all came out as any case of love should, and the doctor gave his blessings.

Merlin arrived home very late in the evening, and threw himself upon the couch.

"You have had a long day, Mr. Merlin," said Charles, the family servant.

"Day? Day? did you say? Why Charles, it has been the whole calendar."

Webster Can Not Beat This

"What's a patent, paw?"

"Oh, it's a sort of thing, my son, that gives one person the exclusive right to all the litigation in connection with some sort of a thing for a certain number of years."

A Modern Dog Cart

SOME inspired writer has assured the world that every dog has his day and every cat his or her night. Here are a couple of lucky dogs who have an automobile. You will note they are lucky dogs, not handsome ones, though the high degree of their ugliness will undoubtedly cause many to declare them beauties.

The owner of the dogs, and of the canine and feline ambulance upon which they are shown, is Dr. W. F. Staniforth, the proprietor of a dog and cat hospital, in Cleveland. The vehicle pictured is used by the doctor to transport his quadrupedic patients to and from his hospital.

The interior of the vehicle is fitted up with drinking trays, rugs and every convenience for the animals, a partition dividing the compartment into two stories—the upper for the cats and the lower for the dogs.

Dr. Staniforth purposes to build in the country near Cleveland a large home for stray dogs and cats, with a hospital attached for the care of those sick and injured. To enable him to do this he would like the co-operation of humane people who admire dogs and cats to aid in the enterprise, so as to build something that would be a credit to the whole of America.

Important, Not Impertinent

When the wind is out of a man the man is dead.

When the wind is out of a pneumatic tire it's dead.

No matter what make of a puffed-up tire you use, the wind is liable to escape from it; and there you are.

You may be twenty miles from a lemon or forty from a repairman's.

But what are you going to do about it?

IT was my good fortune to have been in England in the fall of 1896, and being imbued with the motor spirit of the times, I received an invitation to the banquet at the Hotel Metropole, Brighton, on the evening of November 6, which was to fittingly terminate the celebration of the emancipation of the motor from the road locomotive act which had previously been against automobiling, since under the requirements of this ancient law the motor vehicle was restricted to a speed of not more than four miles an hour, while a man who waved a red flag had to precede it wherever it went. The beginning of automobilists' celebration of their emancipation was a joint run of the emancipated from London to Brighton (about fifty miles); fortunate, indeed, was the man who owned a motor car or, if not, had a friend who was an owner and who would take him as his guest on that memorable occasion.

Not being among the elect at that early date, I did what I thought was the next best thing and essayed the trip on a bicycle in the very good company of an old friend, R. L. Macredy, whose stories of Irish hospitality and the natives' friendliness to everything with motors branded him as either the champion prevaricator of the Emerald Isle, or else the advance agent of a paradise for motors such as we all hope some day to have an opportunity of enjoying.

Three days of rain preceded our start and they were followed by a dull, foggy morning when fifty-three cars drew up near West Bridge for the start. Talk about mud of pea soup consistency, oh my! And a lot of those motor cars had no mud guards. The fog of the morning soon gave place to more rain, and after Macredy and myself had struggled along until we were soaked and mud-coated beyond recognition, we took a train at Stonebridge and gladly connected with our baggage, which had been sent on by earlier train to Brighton. After a change of clothing and a clean up, we watched for the arrival of the motors.

STEAMERS FLOCK TOGETHER

"The Charge of the Light Brigade," with the arrival of its much-lauded six hundred, was not a circumstance to the finish of the fifty-three gallant groomed cars which had started so gaily Brightonward earlier in the day. Less than a dozen reached Brighton that night; and no occupant of any one of the vehicles that did arrive would certainly not have been recognized by his next kin. Lord De La Warr, who occupied the chair that night, told us banqueters of the wonderful advances which would be made in automobiles within the next few years. Six years later, in the year of our Lord, 1902, I was again in England and again took the run which is an annual event in honor of automobile freedom, and at this time I was comfortably ensconced in a smooth running automobile, I could see the improvement of that over my former attempt on a bicycle; but when it came to the weather, why, we had the same old rain of six years before; just as wet, just as plentiful.

READY FOR THE START

America was distinctly in it on the occasion of that first run, when a car driven by Frank Duryea and built by him and his brother Charles in Springfield, Mass., reached Brighton an hour and a half ahead of all other vehicles. I remembered this when six years later it was my good fortune to have an American car put at my disposal by Mr. A. L. Prescott on this anniversary run. Now I run a gasoline—or Petrol, as it is called here—car myself, when I am at home, and I have always had a sort of suspicion that steamers were more or less toys, better suited for park purposes

AT HYDE PARK CORNER

than for hard cross-country touring. Still I had seen and not forgotten the splendid showing made by the steamers in the New York-Boston Reliability Contest, and after the way that little Prescott bowled along utterly unmindful of road, weather, hills or anything, I have been compelled to revise my catechism.

The days preceeding the start of our journey to Oxford had been better than usual for this season of the year, and even early on the Saturday morning when the start was to be made there was promise of a fair day. This promise beguiled some of the foolish participants in the run to come without silkskins. I took no

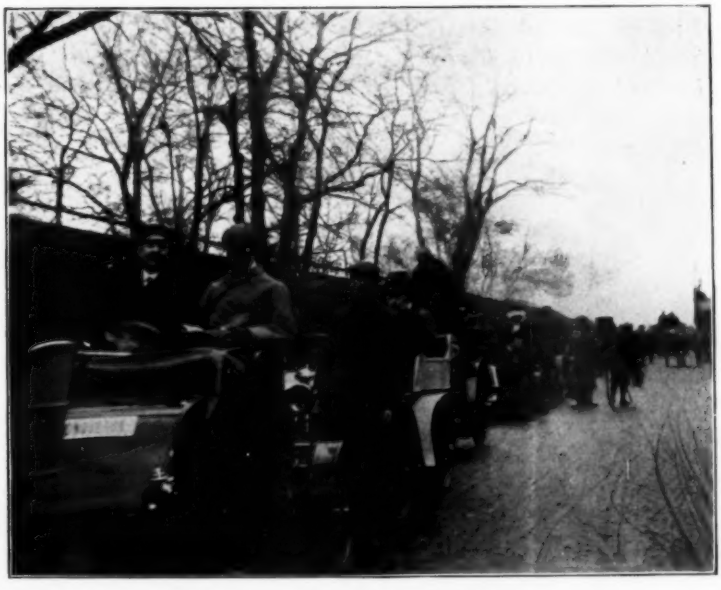
chances; my memory was not so short as to forget six years before, and I therefore clothed myself from neck to boot tops in garments which nothing but a flood could penetrate. The start was arranged for 9.30 o'clock from Grosvenor Place, opposite Hyde Park Corner, and I had arranged with Mr. Hauk, the British representative of Mr. Prescott, to be at the Hauk Automobile Co.'s establishment at 8.30 o'clock. I arrived at the company's offices in Snow Hill sharp on time, and finding only the office boy there, I foolishly attempted to go through the back way to the stables, which I knew to be only a minute's walk, as I had inspected them with Mr. Prescott only a day or two before.

MINUS MUD GUARDS

Now to a man who, of big cities, only knows New York and Chicago, this would seem an easy proposition, but in old London things are quite different. That lane had the jim jams, I am quite sure of this, for it wiggled and twisted about and ran me first into a railroad yard, then into the back of a church, and finally, after enticing me into St. Bartholomew's Hospital, deposited me in the back yard of Old New Gate Prison, with which I being familiar (on the outside), at once told me where I was at, and I soon found my way back to Snow Hill. I had, however, lost a quarter of an hour in the meantime, but taking the office boy into my confidence this time and being by him scientifically piloted to the stable, I finally arrived there only to find that Mr. Wells, who was to be my driver on the journey, had gone on to get a place in the line and had left instruction for me to follow as quickly as possible.

The pitter patter of rain drops began before we had reached Picadilly, and I saw that I was in for it once more. We arrived at Hyde Park corner a good half hour before the start, and put in

a portion of this time in driving down along the line of waiting cars. It was not until we had rounded the corner and passed out of Grosvenor Place and bumped into the Royal Mews that we reached the end of the long line of automobiles and found we were ahead of our car, which soon after hove in sight with a block in the traffic on Oxford street as an explanation for the delay. At 9.30 o'clock there were two hundred and fifty cars in line waiting to start. The cars ranged from the big French, German and English high-powered ones through all gradations down to a number of motor cycles. Of American cars there were half a dozen steamers



ALONG THE LINE OF WAITING CARS

and two gasoline ones, a Rambler and an Oldsmobile. The latter was without mudguards, and I pitied the fair companion the driver had; you see my mind still traveled back to '96. Right here let me beg the American automobile manufacturers not to repeat the stupid blunder made by their brethren in the cycle trade a few years ago, who persisted in sending over machines not properly equipped for British climatic conditions.

On the Prescott car I was lucky enough to occupy we had ample guards and we went through the run with scarcely a speck of mud

reaching us except what we were favored with from the rear wheels of cars we were following. The Automobile Club of Great Britain had arranged a non-stop competition in connection with this run and competing cars were denoted and designated by a distinctive non-trade name, some of which names you will see in the pictures herewith. These non-stoppers were restricted in a number of ways; but we were not after glory and could therefore do as we pleased. Some of the petrol cars proved hard starters, and we gained about twenty positions nearer the head of the line before we got out of Grosvenor Place. Before half a mile had been traveled we passed the first dead soldier in the shape of a huge petrol car labeled "Albatross." While laying no claim to being an authority, I had always thought that an albatross was some sort of a bird which took very kindly to water, yet here was a case where there was plenty of water and still the bird had quit. I suppose the automobile albatross is of the dry land persuasion.

But we had no time for dead ones. Soon we crossed the river at Hammerswith Bridge; in fact we crossed the Thames no less than four times on the run, while for miles and miles our road lay at varying altitudes along the river's most picturesque banks. The landscape with its autumn browns and green would have been enough to have fired the soul of even the most confirmed philistine—if the pelting rain and hail had given him a chance to look at it. Soon we came to a steam car much the worse for an attempt to batter down the curb, and we did not need the evidence of the batterers' tracks in the mud to tell us it was a case of side slip, because just about then our own car took on that seasick motion and never let up on it whenever we attempted to hit up the pace. When we had reached Richmond Park with its fine old trees and splendid drives, the fun began, as it was here we struck the first hill of the trip. The rain was now coming down in torrents. Half a dozen cars were stalled ahead of us while as many others had unloaded their passengers and were supplementing horse power with that of man by making the erstwhile drivers push the driven. These bi-motive exponents needed all the roadway, so we took to the tall grass and were soon at the Star and Garter with that glorious view of the Thames Valley spread out before us with Richmond nestling at the foot of the hill. The elements here kindly let up long enough to give us a look at a scene that "will live in memory as long as what is lovely lives." Down the slippery hillside through Richmond we went at a pace that was a nerve tester for me and a

steersmanship tester for Mr. Wells, who handled that car with the ability of an old master, could, I am inclined to think, give even a London cabby or 'bus driver cards and spades and a beating in the game of talk when he narrowly averted a collision with some incompetent or careless driver—and there were plenty of them.

Across the river again, and out on the Twickenham Green where the first control station for checking the competitors in the Reliability Run was located. Past this and we were into the country at last where we could set up a somewhat faster pace.

ROUNDING THE CORNER OF GROSVENOR PLACE

Down the slopes some of the big cars fairly flew and we let them go by because we were not swift enough to prevent them, had we been so inclined; but on the up grades we had them then and so well did we employ our advantage that by the time we had reached Staines, where we had to stop to take on water, we had passed over a hundred cars. After a ten-minute stop to quench the thirst of our beast of burden, and it took about forty gallons to do it, we were at it again. The glories of Old Windsor Park were scarcely noticed, as passing them we generously handed out mud to the fellows who had been preceding us, and in doing so had kindly

given us a dose of the British Isles in well diluted form. The last drop was poured out of the cloud bucket a few minutes before we reached Reading, the noon control and luncheon point. We had now so bettered our position that we were the thirty-second vehicle in the line.

As I noted in the beginning, I was thoroughly protected from neck to boot tops, and well it was for me that I was; but as for my friend Wells—Oh! well, wells are supposed to hold a considerable amount of water anyway. We found a nice, warm, drying-out spot for our watersoaked gloves on the little smoke dinkey dink at the back of the car. Leaving our hand covers there we went away happy to lunch and came back afterwards only to find our gloves dried out of all possible future usefulness. In bright sunshine the run was resumed, and the rest of the ride was, in all but an occasional sideslip, a delight.

We were now away from the river and we had left the finest scenery of the run behind us. But what of rural England outside of the Black Country is not a delight to the eye? Many were the troubles of the gasoliners, most of them apparently from defective insulation and carbureter ailments resulting from the overgenerous supply of moisture with which we had been blessed or cursed. Before we reached the final control, just outside of Oxford, less than half a dozen cars were leading us.

The only police trap we encountered on the entire run was set for us about two miles from this control, but a couple of kindly cyclists, who are and also should be the friends of motorists, had located the plant and who forthwith stationed themselves a quarter of a mile further down the road where they held up a huge banner upon which was painted: "Police trap just ahead." There was not a house in sight, it being a lonely level stretch of road, and as the now rapidly bunching procession crept along, the uniformed policemen got ready to do the hold-up act on signal from his confederates in plain clothes. The signal, thanks to our friends, the cyclists, never came, and the policeman was, in consequence, unmercifully guyed by the motorists.

Our final entry into ancient Oxford was quite impressive. The halt to circumvent our friends, the police, allowed of over a hundred cars lining up in close order, and so the run into the town and to the tents erected in the market square for housing the cars was most orderly. The interior of one of these tents is shown in title of this story. The event was appropriately wound up by

a dinner at the Clarenden Hotel, at which the ladies, of whom there were a goodly number who had taken the trip, shed luster and welcome by their presence. The post prandial speeches were sharp and to the point. That of the chief constable of Oxford, in which he said that he had never set a trap for motorists and never would, brought down the house. Sunday's return back to London was a go-as-you-please affair with a choice of several routes for going and pleasing. Getting away about one o'clock, Mr. Wells and myself made the run to Henley, including a stop a few miles out of Oxford for a damaged tire, in a little more than an hour's time, the distance being twenty-three miles and a half.

The last half of the journey we made at a twelve-mile pace despite a flat tire which shed two of its four retaining bolts, and which at any pace at all would lump itself and go on a strike.

Now in conclusion American automobile manufacturers who want to capture a share of the trade here must not only produce good goods and reliable ones as well, but they must also equip all cars intended for the British market to meet the weather conditions of the British Isles. In America such rains as the ones I went through on this run would make the roads absolutely impassable, except at a crawling pace, but here the road foundations are so excellent that the sloppy mud does not seriously retard your sped, but it does find its way into everything and demands a protection to working parts quite unnecessary under other conditions.

Features and Failures of Ignition

By Reginald Wales

WHO is more a creature of circumstance than the man who runs an automobile? Who is confronted with more vexatious problems than he? And who grapples more bravely with them, or who displays more intelligence and has a greater range of resources than this same automobilist? It is not in his nature to sit down and bewail the mulishness of an impaired motor; but to the contrary, it is *he* who, possessing the steadfastness of purpose and the loyalty of spirit does not abandon the glorious sport upon the first experience of motoric deficiency.

These qualities of themselves point significantly to the permanency of the innovation, for even as a country struggling from the wilderness of oblivion into the era of civilization, art and education must have the eager, aspiring and progressive blood in the veins of its inhabitants, so must the forefathers, the progenitors of automobilism take up the battle against prejudice and skepticism which it has been greeted with since its birth.

Perhaps one of the most potent agencies in the destruction of the automobile's reputation is the excessive speed which some of the enthusiasts have been wont to indulge in. From this thoughtlessness several fatalities have resulted, besides being a general menace to life and limb. However, there is little doubt but what the papers have greatly exaggerated the danger, especially those publications given over to yellow journalism and sensationalism, who consider a morsel of this kind far too good to drop without first making a great to-do over it.

Then again, all motor carriages have not been successful—neither have all chauffeurs been so; thus, between the two there have resulted some few embarassments which the general public have had the pleasure of witnessing, and from these little exhibitions of balkiness the witnesses have concluded that the automobile is unreliable, a vicious invention and something altogether unworthy to command a place in their consideration. It would seem, however, from the number of sales reported last season that there is little danger of the automobile becoming extinct for at least a little while. At any rate, the danger is not imminent. Historical tabulation is, however, not the object of this paper any more than proclaiming against the evils of fast driving is. What I really want to treat of is a few of the most common ignition inequalities, bear-

ing directly upon motoric derangement with ignition as the initial cause.

As a primary consideration, we have the batteries to give our attention to, and, indeed, no amount of earnest and thoughtful consideration of these ever proves itself a negative quality, for this particular equipment of the vehicle embraces an element which is of vast and vital importance. The series rank first, categorically

THE MAID OF THE MIST

speaking, when enumerating the various exponents according to their respective values and possibilities of inducing ignition embarrassments. Next in order comes the induction coil, it being a factor calling much reflection as to its merits and demerits. Then the sparking points and their adjustment and method of adjustment, followed by the switch and transmission wires. This em-

braces the entire train of ignition fixtures, and as each—here tabulated in accordance with its intrinsic worth—is a power high seated upon a throne of its own, yet each, supreme though it is, depends upon the other for co-operation, and thus the most insignificant exponent is quite as capable of creating motoric failure as is its giant predecessor.

Batteries are rich in faults, and being somewhat evasive of intimate acquaintance, it is not always easy for the young motorist to get so sufficiently friendly with these exclusive things as to make possible his gleaning even a fair working knowledge of their various and at the same time let me say numerous characteristics and idiosyncrasies. Assuming that we are dealing with the liquid type, then there are several factors which have to be contended with: i. e., individual and collective depreciation; premature exhaustion; broken element sustaining rods; incrustation of the binding posts and consequent partial or completely interrupted transmission of the currents. These are the main issues, and each one demands the undivided attention of the man who would have his motoring experiences pleasures in place of plagues.

If there is a condition in the series in which individual disintegration has taken place, it will manifest itself when, in testing each cell composing the series, one is found defective of registration. If a battery of this nature is within the circuit its influence is always most potent and offers conclusive evidence as to its inefficiency by preventing the healthy flow of energy, coming from its fellow-workers, from passing on to its legitimate destination. Such a battery will not permit electrical energy to pass; in fact, it acts as a positive impediment thereto. Thus, when no flash can be obtained at the ignition centers, it does not necessarily follow that the entire series is in a worthless condition.

It very often saves considerable expense and loss of time for the owner of a motor vehicle to make these individual tests either with an ordinary electric bell or with a reliable battery gauge. In the case of collective exhaustion, of course, the matter is of altogether another nature, and calls for a different treatment in consequence. Batteries, like people, like animals, like all things, after having existed in health and activity for a certain prescribed period of time, eventually become weakened, and ultimately relapse into a senile state. Batteries, much less than many other things, cannot be expected to for ever retain their initial strength or energy, so, after having been subjected to perhaps a protracted

and, at the same time, exacting period of activity, they must necessarily suffer the reaction and effect. It is only reasonable to suppose and to anticipate a failure in the faithful performance of their duty after a definite period has elapsed since the installation of a set of batteries. And yet I know vehicle owners who think it strange that there should ever be a discrepancy either in battery composition or service. But in fairness to such unreasonables, let it be said that they are usually inexperienced ones, whose knowledge of electrical matters is very modest indeed.

If the life of a battery is placed at say 2,000 miles, then it must be expected that at the end of this distance it will have lost its original propagating proclivities. Very often a motor vehicle stands idle for quite a while; perhaps it is not run more than one-half the distance of its battery life, and yet the series becomes useless. Such conditions not infrequently come from local action, a fault which very few liquid batteries do not possess along with their virtues. This action is due to the impure composition of the negative element, which is the zinc. The metal holds other substances within itself, and these various agencies establish independent counter-electro forces, resulting in the main element being dissolved uselessly and the acid's solution greatly weakened. Of course, if this inequality comes to a series, then it is needless to expect other than a direful failure to "make" the prescribed 2,000 miles it is supposed to be good for.

FRIENDS OF THE ROAD

Local action is decidedly a very annoying thing to battle with, and once it becomes firmly established it rapidly destroys the integrity of all the cells. Amalgamation of the zinc is an excellent measure of precaution to observe in such cases, and inasmuch as this requires but little effort, a minimum expenditure of time and money while eliciting a maximum in satisfactory results, it would seem as though every battery owner would do well to at least give it a fair trial. The batteries used in automobile service must neces-

sarily be of a type to supply a heavy discharge continuously, and in order to insure this energy, rather heavy elements are used in their interior construction. These elements must have extensive an area exposed to the action of the cells solution, and, of course, these exceptionally large elemental factors are of considerable weight. This gives rise to the consideration of the

SUSTAINING RODS. The positive and negative qualities are usually maintained by means of two rods of a length sufficient to hold both in a certain position within the jar. While at first these sustainers may be of sufficient strength to easily offer the required support, yet in time they gradually become weakened by the undermining influence of the acids. When they have finally reached this impaired condition, it is not surprising that some day upon the vehicle encountering an obstruction of more or less consequence, one or perhaps both rods break and allow the elements to fall, and the circuit is thereupon broken, and the motor ceases its functions until a battery test reveals where the trouble is. The motor ceasing suddenly, as it does, coupled with the remembrance that the vehicle has just struck an obstruction, rather tends to furnish a clue as to the probable condition of affairs, and all that is needed to satisfy the operator that a broken rod is the trouble causer, is for him to set about making individual tests with the ever valuable bell or gauge. The removing of the one defective cell from the circuit would not necessarily create embarrassment, since it is seldom that one cell is of such vital importance as to detrimentally affect the efficiency of the engine Therefore, by bridging you would remove the station of interruption, and the carriage could be at once gotten under way again. My own experience leads me to believe that the battery breakdowns, coming from sustaining rods, is very great, and that while not of a serious nature, yet they are quite often responsible for very annoying delays. I have broken as many as three such rods upon a single run of fifty miles.

INDUCTION COIL. In the first place, it is essential that coil construction be perfect. Care should be taken to make the entire coil as nearly water-proof as is possible. Its internal arrangement should be such as to resist a certain proportion of the product propagated from the generative agency. If this is not done, then all the energy is dispensed uselessly and the series rendered impotent because of the abnormal drain brought to bear upon it. A horse can, under certain conditions, exert five times its

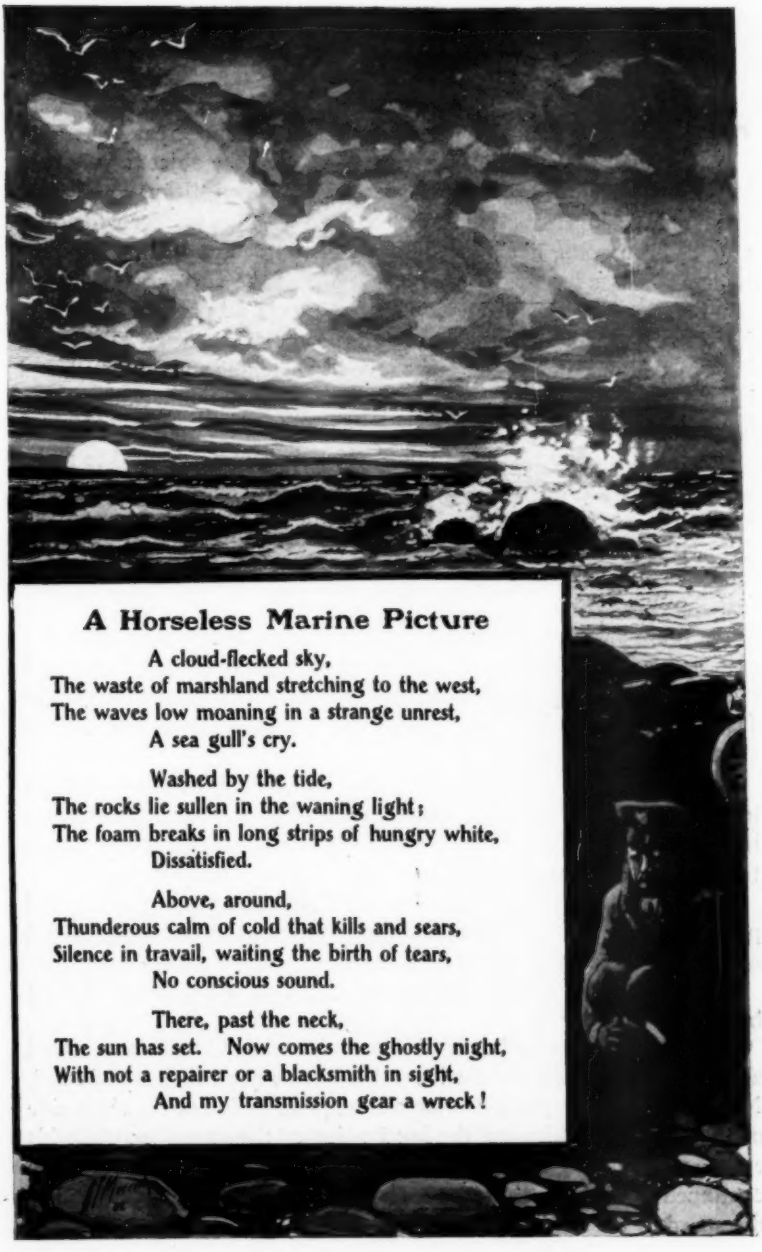
normal strength, but such periods of muscular activity can only last for a brief space. So it is with a battery. For a short time it can, if called upon, work at maximum limits and can successfully withstand the additional strain, subsequently recuperating nicely, but when the coil offers little or no resistance to battery generation, and the batteries are called upon to always toil at their full capacity the moment the ignition centers are in operation, then it is only natural that they should break down beneath the unreasonable burden.

TANKING UP A RACING MACHINE

Because the evils attending a deteriorated coil are so marked and malignant in effect, the automobilist should be careful not to overlook this feature of his conveyance. Such a condition as I have noted above means ruin to the series, however strong they may be, and it means disappointment to the owner, simply because he cannot obtain satisfactory service from his vehicle. I am sure it must have been the experience of more than one of my readers for them to have had an unsatisfactory working motor from apparently no cause. Upon examination, sparking points were found to be in a faultless condition, and their adjustment admitted of

no question, while all other portions of the electrical equipment were equally as exact in their state of efficiency. And yet there was a motoric failure. When such perplexing conditions prevail, let the sufferer therefrom have immediate recourse to a new and acknowledged standard induction coil; then recharging the series once more, let him calmly await the result. I have perfect faith in my belief that the sufferer will find the result to be eminently satisfactory.

SPARKING POINTS. It is well known that around these little things a heap of trouble loves to congregate, and once having done so, delights in dealing out generous measures of annoyance and tribulation to the unfortunate motorist. Too often is the battery owner brought to a full stop in his career while he is obliged to remove the sparking plug and clear away the incrustation which has collected upon its surfaces. The quality of gasoline used has also much to do with the frequency of the inequality of motor propulsion. If the liquid be an exceptionally impure mixture, or if it contains an excess of dirt, then a large measure of this is seemingly precipitated upon the points, and thus the spark is gradually deprived of its intensity until at length the vehicle either stops itself or is stopped for the purpose of cleaning off this accumulation. An unsteady motor, one disposed to be sluggish and unsteady of motion, is a characteristic of conditions of this kind, and the decidedness of the manifestation is dependent upon the primary or advanced stage of the impairment. It is a good plan to examine sparking at stated and frequent intervals, since under such inspection you are always acquainted with their integrity.



A Horseless Marine Picture

A cloud-flecked sky,
The waste of marshland stretching to the west,
The waves low moaning in a strange unrest,
A sea gull's cry.

Washed by the tide,
The rocks lie sullen in the waning light;
The foam breaks in long strips of hungry white,
Dissatisfied.

Above, around,
Thunderous calm of cold that kills and sears,
Silence in travail, waiting the birth of tears,
No conscious sound.

There, past the neck,
The sun has set. Now comes the ghostly night,
With not a repairer or a blacksmith in sight,
And my transmission gear a wreck!

The Story of Number 134

(Begun in September Issue)

By Ned Wilson

THE parties in the surrey were evidently in no great haste, and were probably touring along more with the object of viewing the country than of breaking the record, but when "John C. Nichols, Automobile Expert," came down the road with his muffler wide open and his horn going like a locomotive whistling cows off the track, the temptation was too great for the operator of the surrey who did not seem inclined to take anybody's dust. No. 134 was nearly upon him, however, and close enough for him to hear the advice to "Take that log of wood out of the road" when the big machine surged ahead, and before the occupants of No. 134 realized it, the other vehicle was a hundred yards ahead and out of sight around a bend in the road.

This was too much for John C. Nichols, and he stopped to make an examination, but could find nothing wrong, and then strived to assure his traveling companion that "it must have been one of them cannon-ball racing machines."

"Gosh, I'd like to ride in one of them blame machines! How fast can they go, do you reckon?"

"Well, I've seen 'em go round the track a mile a minute, and I expect they'll go faster next year. Why, one fellow down there told me that he was building a machine for next year's races that will go fast enough round a mile track for the front wheels to run on the shadow of the hind ones."

"Guess that would be pretty fast," was the reply. "I was reading in a paper last night that light travels 186,000 miles a second, and if that fellow travels on his own shadow he'd have to go 'round that track 816,000 miles—— Oh, get out! What you givin' us?"

"Well, let's get in and see if we can catch that chap again." And proceeding up the road about a mile they turned at right angles and met the surrey coming toward them.

"Hello, boys," said the operator. "Got an anchor tied on behind?"

Nichols bit his lip but made no reply, while the oil man stared at the surrey in open-mouthed wonder. Soon after they had passed, Nichols steered the machine onto a level piece of sod at the right side of the road, and taking off the hood adjusted the vaporizer while his engine was running idle, speeding it up after each new adjustment, he continued until the setting was such that any alteration would reduce the speed of the engine.

"What do ye call that thing?" asked Mr. Johnson.

"This? Why, this has got more names than any other part of an automobile. One will call it a vaporizer, another a carbureter, another a gasolene valve, a generator valve, a mixer, a mixing valve, and even a sprayer."

"Must be a part of considerable importance to have all those names," was the reply.

"Yes, together with the igniters, it is the most important part on the engine. Now, I've got it adjusted better; let's get in and I'll give you the ride of your life."

"All right. Let her go." And away they sped, and, striking a splendid stretch of level road, they were soon making excellent time. In fact, it is probable that if the surrey had met them they could have held their own very well. But soon the hard road began to get muddy, and before they realized it they were skidding from side to side as if they were running on a greased floor. The operator, becoming excited and fearful lest he should lose control of the machine, put on the brakes with all his might, and, with a swing like a stone on the end of a cord, the automobile spun around and struck a large elm. Neither occupant had time to realize what had happened before they were dashed to the ground, where they lay senseless for nearly a quarter of an hour. Johnson was the first to come to, and he sat up staring blankly about him.

"Why in thunder didn't you blow your whistle or ring your bell?"

A farmer who had just come up and heard his remark said: "Hello, Mister! You must think you was hit by a train. Seein' as there's no railroad within four miles I guess you're mistaken."

The oil man stared vacantly about him until his eyes fell upon the demolished rig. "Gosh all whiskers! It's that pesky automobile

again!" And catching sight of Nichols still lying unconscious he cried: "Hi! Get some water and help me bring this feller to. Say, you redheaded blunderbuster, wake up!"

A dash of cold water, coupled with a vigorous shaking, caused the "expert" to open his eyes, but his head was much befuddled.

"Where's the cow?" he asked.

"What cow?"

"Why, the cow we ran into," explained the injured one, just as the surrey came up.

"I guess the cow you ran into was the bull you made in trying to run full speed on a greasy road," remarked the oil man. He had taken in the situation in a glance, and there was considerable evidence to show just what the operator had been doing.

No. 134 was a sight! The radiator was bent and twisted seven different ways; the body and the seat were split and splintered, and the frame was broken where it was made of wood, and buckled where it was made of iron. The water and the gasolene tanks were broken open and empty; practically all the spokes on the back wheels near which the vehicle had struck were broken, and about the only thing left intact was the engine and the tires. A large farm wagon gathered up the remains the next day, and it was shipped to the factory with a demand for a new machine, because the wreck was caused by one of the factory's employees. So little was left in a whole condition that no attempt was made at repairs, and the uninjured parts of the machine which were practically new were used in the construction of others. Thus "Shop No. 134" passed out of existence, except in the records of the books of the company and the memory of those who had owned it.

THE END.

Some Show Preludes

By A. F. Sinclair

FIFTH Salon of the Automobile, the Cycle and *des Sports.* Such is the elaborate title of the A. C. F. show, which, opening on the 10th of December, will close on Christmas evening. From the statements published, there is little doubt that it will be the most elaborate show of automobiles ever seen. The Grand Palace in the Champs-Elysées is the building patronized by the Automobile Club, and it is said to be eminently suitable for the purpose. For the first time British builders are exhibiting their wares, both Napiers and Wolseleys being represented.

The winner of the Gordon-Bennett trophy has, like the Duke of Plaza-Toro in the comic opera, been converted into a limited liability company. Under this title the business hitherto carried on as the Motor Power Co., Ltd., will be conducted. Mr. Edge has been a long time in waking up to the fact that his reputation constitutes a somewhat valuable asset in business.

There is a touch of pathos in Paul Meyan's concluding sentences on the new Mercedes, which he describes, after a visit to the Daimler Works at Cannstatt, in *La France Automobile.* He recognizes that in the German car, French builders have to meet a competitor which it will be extremely difficult for their best machines to beat, or indeed in some respects to equal.

The new cars will make their first public appearance during the Nice meeting in March, when it will be found that they embody a number of highly interesting and ingenious devices absent in the 1902 type, but what these improvements are, exactly, cannot at present be made known to the public.

It will be found, however, that although 100 kilogs. lighter than before the châssis has been increased in strength, the radiator by a rearrangement of construction will have its cooling area doubled without increasing its size, while the ignition apparatus will be revolutionized.

The magneto is retained, but in an improved position and a second method, not specified, is also fitted, but whether as reserve or as the main supply, is not known. The latter is probably the new system invented by Herr Eisemann, of Stuttgart, which is credited with having created a sensation in French automobile circles. It consists of the ordinary magneto fitted with two commutators, one to perform the function of ccnverting an alternating current into a continuous one, the other to distribute it to the cylinders.

The armature is carried on a sleeve on the driving shaft and is arranged to be so moved on the shaft that the spark can be advanced or retarded. The current, by passing through a transformer coils, attains very high tension and gives an exceedingly long spark.

The cars being prepared for Nice have motors with four cylinders, each 170 mm. bore and 140 mm. stroke, rather a reversal of the recognized ratio, which work at from 1,000 to 1,200 revolutions per minute. These cars weigh 900 kilogs. when ready for the road. Everything runs on ball bearings. The appearance of these cars will be awaited with a great amount of interest and anticipation.

The visitor was shown a 300 H. P. engine being built for the Russian navy, and the method of starting it opens up an interesting vista of possibilities. The piston is brought to the proper position, and by the explosion of a charge of gunpowder the engine is started without fail.

May we look forward to the time when every internal combustion motor shall carry a small magazine of cartridges, one of which, by turning a handle, shall drop into the cylinder, explode and start the engine? It would certainly be easier than the present windlass handle exercise.

It is probable that the growing opposition to the registration and numbering clauses of Mr. J. Scott's Montagu's bill, which primarily provides for the abolition of the speed limit, will result in its withdrawal. The opposition has been swelling in volume since the text of the bill was published, and has now reached dimensions which it will be difficult to resist. It is very amusing, for the opposition originates in exactly the same feeling, objection to change, which actuates the Justice Shallows who resent the appearance of automobiles, and vent their feelings by heavily fining automobilists.

Glasgow.

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Accuracy Through Development

IT is significant of the increased interest in automobile routes' information that the discussion of ways and means to promote and extend this service continues unabated after winter has put an end for the while to all general touring plans in this section of the country. Several inquiries and additional suggestions have reached this office since the publication in the December number of THE AUTOMOBILE MAGAZINE of the communication, "When Doctors Disagree." One subscriber in particular inquires about the accuracy and reliability of the usual reports of optional routes, and suggests the plan of district correspondents to increase the value and efficiency of the work as a whole.

As a matter of fact, every automobile route of sufficient general interest to be described and illustrated for the information and guidance of tourists necessarily involves a number of others subordinate to itself. To know of and to be able at times to use optional portions of these others to advantage may frequently

serve one in good stead by giving a certain elasticity as well as variety to his program.

Theoretically the compiler's fund of information as touching these auxiliary routes should be as complete and extensive as for the main trunk lines. Practically, however, the work multiplies itself as its larger relations are approached; and the physical limitations of time and opportunity for independent investigation appear.

For this reason the general outlines as well as the estimates of distances, road conditions, facilities en route and the like, concerning optional portions, will naturally suffer in accuracy and completeness as compared with the main through lines actually covered from end to end. It may be presumed that the party reporting one of the latter is familiar with it through this sort of direct observation. Any less expectation than this would be likely to lead at times to careless compilation. But a little more latitude may safely be allowed one whose purpose is primarily the reporting of some special and definite route, and who thinks it worth while to take at the same time a general survey also of the optional portions. Such observations as he is able to personally make and gleanings from the most reliable sources along the way become in this case legitimate data for communication. By this somewhat imperfect means the locally unacquainted tourist may be able to see possibilities to his own convenience or inclination—particularly optional beginnings and ends to a certain trip, which an over-close adherence to one thoroughfare between stated termini would cut out entirely.

As the work of compilation extends—which is only a matter of time—important options can be taken up, principally in handling the various "riding districts" which will gradually define themselves. As a ready instance we may expect to use in the automobile touring references of the future not only material touching the "New York-Philadelphia Route," but also "New York and Philadelphia to the Jersey Coast Resorts," and "New York and Philadelphia to Delaware Water Gap and Delaware River Points." These three subjects have some portions in common; yet each is a theme suited to liberal separate treatment. Accuracy and fullness of information will come, then through development of these opportunities.

District correspondents will find their place, we believe, not so much in contributing to the making up of through itineraries, as in introducing the tourist wishing same to the particular advan-

tages of his own section. One who has attempted to make up a satisfactory through schedule, in territory personally unknown to himself, by matching together the separate reports of district correspondents will better understand the difficulty. But a register of automobilists who know the special road conditions, distances, points of interest and the like in any section will be valuable in many ways.

Correspondence with such will enable the stranger to plan a special rather than a general trip, and to get out of it a maximum of pleasure. Objective points will multiply. The time is coming when the byways of travel will advance in importance, and single day's or week's end outings greatly increase in popularity. No general system of information will ever take care of all these requirements; but the recognized headquarters for the one will be a sort of directory for reaching the others.

If a Trust is Tried

THERE has been a rumor circulated that an effort is to be made to combine the chief manufacturers of automobiles. We do not believe with the absolute failure of the attempt to do the same thing with the cycle makers so prominently before them that the automobile manufacturers will for a moment listen to the would-be promoter, no matter how specious his arguments in favor of a combination may be.

Granting the seeming impossibility of an automobile trust, what then? Will the purchaser be benefited or injured by such a condition of affairs? Unless all the rules of precedent be violated, the purchaser need have no fear; the law of competition takes care of the consumer always; he needs neither trust nor union to protect him.

No artificial price in anything can be maintained by combination when production is unlimited, against the temptation for makers to cut prices and increase sales.

No combination among automobile makers could either control its own members or smother outside competition. The result of any attempt to do so would be inevitable and just. The alleged plan has no economic merit. It makes no effort to share the saving between capital, labor and purchasers. It is planned to join the first two to hold up the other on the highway by sheer brute force. Should this

be tried it will inevitably be undone by the law of competition which it defies.

It is a wise generation in trade that does not see the rise and fall of some supremely ingenious scheme for beating the law of competition, of supply and demand. The problem draws minds of a certain type with the fatal fascination of perpetual motion. It is no less insoluble than that, supply and demand being the gravitation of trade.

Just now the trust idea is the favorite plan of the would-be wonder-worker, and it is not at all unlikely that eventually the effort to combine the large automobile makers into some form of a mutual admiration and wealth-making society will be attempted. But the time is not now, so the day of an expensive experiment, which will cost the sellers of automobiles many times what it will cost the buyers thereof, is not yet in sight, thank goodness!

Some Responsibilities of Correspondents

IF there is any one thing which the earnest worker for automobile development appreciates more than any other, it is an honest opinion of what he is accomplishing, as expressed at the proper time and place by intelligent and practical men. It matters not whether these men are connected directly with the sport and industry, or merely interested spectators of automobile progress as a whole; but sincerity and some qualification for speaking may reasonably be expected. The point is to get to the root of the matter under discussion and to gauge its quality and value fairly and squarely. Scarcely anything may safely be considered by itself alone, however, but in the light of what others are doing, of present-day requirements and future tendencies as they cast their shadows before.

When the opinions and criticisms thus brought out are favorable, there is naturally a sense of gratification; when they are equally honest but adverse to the plan or work in hand, the first result is very likely to be an inkling of better ways and means for accomplishing the same ends. The inspiration for still stronger effort frequently comes at the same time. Chagrin and retaliation are justified—if ever—only when the criticism has been made with evident insincerity, upon inadequate grounds or without close personal knowledge of the subject.

Yet the object of a correspondence department is not so much to emphasize this personal knowledge as to bring theories and facts

having useful possibilities to public attention, and to invite full and free investigation of them. In other words, it is a call upon the personal observation and experience of readers to supplement the organized service of the publication itself with their own volunteered information. A certain part of the progress in any important field depends upon this very thing, since nothing is of more than passing value which is jealously restricted to the use and benefit of one individual. Again, wide participation in the discussion of any subject leads to the most definite and safest conclusions; it is both the experimental workshop and laboratory of the automobile interested public.

Accuracy and explicitness in all communications are therefore essential. No facility in expression can make up for half-knowledge; facts and direct observations are wanted, not "literature" or vagaries of the fancy or imagination. Current problems of automobile development are not to be solved by inspired visions of what things will have come to in another twenty-five or fifty years. Definite interests for to-day and practical applications for to-morrow are most of all in demand. The reader should co-operate with the editor in determining that which is worthy to stand; here, as elsewhere, two heads are better than one.

Readers whose correspondence is guided and shaped by these considerations become in the largest sense partners in the progress of automobilism. They are ready to sign their names to what they write for publication, or at least to make themselves known to the editor "as evidence of good faith." No anonymous attacks are traceable to them, and in case their own standards are assailed, their defense is characterized throughout by spirit and moderation. They are openly right or wrong, giving and taking with good nature—always.

On the Road to Perfection

THE world is so surfeited with machinery, it hears so constantly of new machines invented and of old ones perfected, that people forget that evolution in any new line of machinery is almost as painful and full of failure as evolution in animals—at least when directed by men.

When the fast being perfected motor vehicle evolutes into the aerial automobile, and seeks in the air new difficulties to conquer, the world will exclaim at no one's having discovered the right way of aeronauting before—as the Spanish Court exclaimed at Columbus'

egg trick. Each mechanical step, so plain, once it is taken, looks beforehand like a leap into the unknown.

It is a phase of evolution as surely as the natural weeding out of nature with animals; and were it not for rust and the melting crucible, generations to come would stumble across thousands of skeletons of machines that had to succumb to other more capable machines.

Among such skeletons many would be those of motors which had lived, died and then been buried by their betters. Even so, the practically perfect motor is now almost within sight, nearer, by far, than the flying machine which must wait for it. In the meantime, the size of his scrap heap is the thermometer which records the rise or fall of the motor maker's progress.

The Boy's New Game

THERE is, and there has been, for unnumbered years, a time for the spinning of tops; a time when every breeze lifts tailed or tailless kites; a time when marbles spin on dusty roadsides or stone pavements; a time for stilts, a time for hop-scotch. Every game has its season, and universally the small boy is unanimous.

Nowhere, however, is this so marked as in this new game with automobiles. In lonely fields the isolated boy picking the stone crop plays it. In small villages, in thriving towns, in the great cities, he is always at it. Spring or summer, autumn or winter—it matters not. Given the automobile and the small boy, the game at once proceeds. It is a simple, easy game, not requiring special aptitude; any boy can play it, though those who do are generally between the ages of seven and fourteen. There is, however, no actual age limit, for the tiny urchin just able to speak, or even a man, can occasionally be found busy at it. But it is especially the small boy's game, be he American, Irish or Hebrew, and he is playing it somewhere or other all the time, and always in the same way.

Of course, everyone who has ever been in an automobile knows all about this game, having heard it played every time a small boy heaves in sight. Yet it does not seem to have been remarked upon, although possessed of certain peculiar features which place it in a class by itself. The other games of boyhood have been

handed down from father to son. This new one, for obvious reasons, our fathers never played. No sacred traditions hang about it. And still, while the other games are played with some individuality, even quite differently in regions remote from each other, this new game never varies. There is only one way of playing it, and every boy plays it that way, the moment he sees an automobile, be it for the first or the five-hundredth time. One is half tempted to think that perhaps the answer to some great question of evolution, of inherent tendency, of inter-dependent brain action, may lurk in this little game.

As for the game itself, it merely consists in shouting, at the top of the voice, rapidly and with a rising inflection, as soon and as long as an automobile is in sight, the following phrase—putting the emphasis on the first word and repeating the slogan thrice—"*Git* a horse, *git* a horse, *git* a horse!"

Did you ever stop to think of the daily wear and tear on the 1,643 miles of streets in New York city? Your shoe bills make you realize that some quantity of leather is left on the streets at every step, and if you own horses and carriages, or if you think of their journeys, you know that iron shoes and tires are being worn out on the pavements, and are in turn wearing the pavements. With each individual person, horse or vehicle this may be infinitesimal in one day, but in the aggregate it means a great deal. The coming of the automobile, with its tires of rubber, and elimination of the iron-shod animal, will do much to lessen this wear and tear.

Of course, you thought of the automobile as a Christmas gift possibility! That is, you thought of it more in the light of a recipient rather than as a giver. In fact, there are but two reasons why an automobile should not be the most popular of presents at Christmas. The two adverse reasons are—the price and the bulk. The first cannot be taken out of the ordinary pocket; the second cannot be put into the average stocking. If two reasons are too many for you, eliminate the second one of the above named and you will find the remaining one is quite potent enough to prevent the automobile from becoming prominent on the list of those things which we are told "it is more blessed to give than to receive."

Lubricated Highways

AT Nice the French have been trying experiments in the oiling of roads to prevent dust. Some hundreds of yards of the Promenade des Anglais were covered to a depth of about three-eighths of an inch with coal tar and sand, and afterward faced with a coating of petroleum. The result was not an unqualified success.

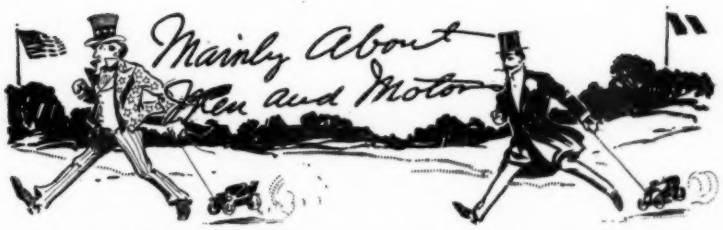
A hard, smooth surface was produced from which little, if any, dust was derivable. But it has proved so dangerous for horses that sixty falls have occurred upon this short strip of road alone since the track was made. The surface is already broken, peeling away in large cakes and exposing the macadam beneath.

A new plan is now being tried upon the level road at Magnan. The surface was thoroughly cleansed, leveled and dried, and then coated with a very thin varnish of hot coal tar. Next day sand was sprinkled over it, and after six days a second similar coat was applied. The cost of the application is about 4 cents per square yard.

No petroleum has been used in this experiment, but it is about to be tried on the Boulevard Carnot as an alternative. It is, of course, quite premature to say what may be the result in either case.

At Monte Carlo, on the other hand, the experiments with coal tar on the roads have been decidedly successful, and have made it clear that dust is perfectly preventable. All that is needed is money for oil or tar to be scientifically applied.

No longer doth she reign as queen
  In fashion's giddy whirl,
Her throne is now the fleet machine—
  That lithesome auto girl.
No more is her complexion due
  To decorative brush,
But nature paints her every day
  With health's bright rosy flush.



There will be another French invasion for certainty and the invader has already put in an appearance. The invader is Mons. A. Clement, head of the great French concern that bears his name. The Clement American factory is located at Hartford, Conn., and if the American production of this famous concern is anything like as good as its French output, the new company will certainly make a go of it. The American managers are Messrs. Allen and Henly, two aggressive young business men, but the concern will be practically owned by M. Clement, who is one of the most interesting Frenchmen who ever visited this country. Mr. Clement is one of the most democratic men. The writer remembers a few years ago sitting with him on the top of a rail fence at Malden, Mass., where we watched a bicycle road race. The fence could not stand the strain and we found ourselves among vegetables in the field it enclosed. Nothing daunted the Frenchman climbed on a truck where the task of refereeing the road race was resumed. The finish was a grand mixup, which M. Clement said gave him an excellent example of the strenuous life Americans lead.

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Believe me, I would rather say nice things and look at the world with a smile than I would say unpleasant ones or frown, and I can appeal to a small army of friends to substantiate this statement. Fault-finding is not good for the health. I think that it was the late Thomas Brackett Reed that said: "Don't look for trouble, it will come along on schedule time." Despite my naturally optimistic inclinations I have been unable to reconcile the mental friction clutch and differential gear of the executive of the

National Automobile Manufacturers' Association in reference to trade papers. Some time since these gentlemen began an inquisitorial campaign against trade publications and asked questions of their publishers which would have been insulting if asked the N. A. M. A. by the publications. The inquisitors said very emphatically then that many automobile papers were not worthy of support and patted two or three favorites on the back, while they gave the others the mailed fist.

Now watch the change of front! A publisher goes before this Executive Committee of the Manufacturers' Association and would have undoubtedly secured its endorsement of his particular project, had not one or two of the wiser members been forewarned. The question was whether the Manufacturers' Association should lend its support and endorsement to a daily automobile paper during the period of the shows. They endorsed it all right, but with a weak-kneed pusillanimity which showed they were afraid to specifically endorse the original projector's particular game; instead of doing this they declared for a "daily automobile paper."

I give the projector all credit for his enterprising shrewdness, and he deserved to get the endorsement he asked for, if there was any burning need for such a daily, which there was not. It is said that the president of the Manufacturers' Association was extremely non-committal when this daily endorsement was up, and the question naturally arises, why should he be so? As the chief of the executive force of this association he should have said yes or no emphatically, particularly after his gallant, and there be those who call them his impertinent, endeavors to weed out the "too many automobile papers," which he was so positive were injuring a trade he himself has done so very much to place on a high plane, maybe.

I understand the publisher of the proposed daily declares such a publication will very materially assist in placing the automobile industry in this country on the same basis that it occupies in France. This is, of course, mere talk. An automobile daily is possible in France for the reason that the daily papers there do not give the trade and sport one hundredth part of the publicity that the great dailies of this contruy do. For the same reason two large daily sporting papers are possible and are successful in England, but they have been tried here only to be the most disastrous failures.

The promoter of this daily paper was frank enough to tell the manufacturers' committee that he expected it would be a remunera-

tive venture. In other words, he said that he expected the manufacturers to pay for it. Therefore, the question arises, is it politic and businesslike to burden the trade and advertisers with this additional expense when the Manufacturers' Association Executive Committee said but a few short months ago that there were "too many automobile papers"? How the project will be received by the daily newspapers is another and important matter. The New York dailies are always generous to the Madison Square Garden shows and it would be only natural for them to look upon this new venture as a trespasser on their particular preserves. I hope this will not be the case, but there are mutterings abroad that there is something doing in the business and editorial office of the daily papers.

In closing I want to correct the projector of this automobile daily, when he says that it is to be the first automobile daily published in the English language. The *Motor Age* daily, which the writer assisted in getting out two years ago in Chicago, was not published in French, or Yiddish, or Bohemian, but it was in plain Chicagoese, and that's good enough English to hold the record in this matter.

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It is coming and the automobile manufacturer had better put up his umbrella. I now refer to the desire of many and sundry persons, who scent profit in giving automobile shows in their respective towns and villages. I can well understand a town like Cleveland being deserving of a show, likewise Detroit and Philadelphia, possibly, but that should be the limit unless San Francisco should want one. Manufacturers are too busy to attend to all of the little shows projected and to be projected, and it is time a halt was called in the matter. The losing of valuable time to the manufacturer in a busy season, to say nothing of the expense, are only two of the many things that should put an end to the number of shows now planned.

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It was my good fortune the other day in Cleveland to congratulate Harry Fosdick and his charming wife on their start upon the matrimonial voyage, which commenced in the much liked little

town of Hackensack, N. J. As boy and girl, Mr. and Mrs. Fosdick grew up together and picked pansies by the way. Now they are full-grown roses as man and woman. Their many friends wish that their home in Boston will be an ideal one, as I feel sure it will be after seeing the gracious New Jersey bride. Mr. Fosdick is the Winton Boston manager and recently captured the Boston and New York record.

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Speaking of marriage it reminds me to toss an American Beauty bouquet in the direction of L. H. Kitteridge, the Peerless Motor Car manager of Cleveland, who recently made up his mind that it was not good for a man to be alone, even if he has an automobile. Mr. Kitteridge is a young man who brought success to his company, being ably seconded in his efforts to do so by Superintendent Mores. It is the Peerless people's intention to double their output in 1903. The demand has been so great that the Banker Brothers Company have taken every vehicle with a very few exceptions that the company has made this year.

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Why the League of American Wheelmen or any of its members who are itching for office should be allowed to butt into automobiling, is one of the strange things of the day. I do not believe that the Automobile Club of America or President Shattuck gain anything by negotiating with or listening to such men as J. B. Thompson. Wheelmen of all people should remember the persecution they received, but I suppose such men as Thompson are of the recent kindergarten class, and, therefore, neither know nor care anything about it. This man Thompson has been telling the people that 360 persons have been killed and 1,200 injured by automobiles during the year. It would seem to me that cyclists will have about all they can do, and more, too, to boost their own waning fortunes.

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As an example of energy, courtesy and efficiency commend me to A. L. Dyke, the St. Louis, Mo., automobile partsman. Mr. Dyke started a few years ago, having for his factory a barn at the rear of his residence. The barn had a leaky roof, but that did not deter Mr. Dyke from laying beneath its leaks the foundation for the

present mammoth business he conducts. Mr. Dyke started by making motors and parts, later on he added a large line of sundries. Now you can buy from Mr. Dyke a complete machine in the rough or finished and if you don't want to assemble it yourself, the St. Louis man will attend to that for you and make a first-class job of it, too. People who have bought from Dyke tell me he delivers the goods and that they are of the best. Buyers say they have no trouble experienced doing business with him, which cannot be said about some other spread eagle concerns, who first get your money and then write you letters, telling you what to do with the defective material they send you for your money. Mr. Dyke is deserving of the success that has come to him through his good business methods, which in the end never fail to win for those who do not allow themselves to depart from them.

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The second annual hill climbing contest, which might be called national in character, took place at Eagle Rock, West Orange, N. J., Thanksgiving Day. The day was far from an ideal one, being dark and gloomy with a drizzling cold rain falling. Notwithstanding these drawbacks, twice the former number of entrants were on hand to tackle the steep and more or less muddy mile and one-eighth of incline. It is doubtful if a more satisfactory hill could be found for testing the grade surmounting powers of an automobile, and with complete management this annual event should be a red letter one for automobilists in this country. Not a few of those who had entered evaded the issue, but a resolute lot faced the starter, thereby proving they had every confidence in their machines. The management of this annual event rested with the Automobile Club of New Jersey, or rather two of its leading members, Messrs. Stewart and Wheaton.

Some lack of preparation through pressure of business affairs, perhaps, showed itself before the start, which was delayed, unfortunately for those people who braved the elements and the road to be spectators. In a most friendly spirit I would advise Mr. Stewart to place the executive end of the contest another year in other

hands, as his dual appearance as manager and as competitor is not for the best interests of this affair, even though it was originated by Mr. Stewart. The want of experienced official timers was shown in the dispute as to the time of O. P. Nestman, who drove the Stevens-Duryea. The writer stood at the finish line when the Stevens-Duryea car crossed it and the time was at first given out as 2:45 and a moment later as 2:55. After the conclusion of the contest, the time of some unofficial watch was taken as 3:45 and the record of the day was given to Manager Stewart. Now if the 2:45 had been correct, Mr. Stewart would still have held the record, since he made 2:43 last year over the same course, when the day and road were both very much more favorable. The Mors timing instrument, a French affair, operated by a battery from the start may be all right, but either through lack of assistants or lack of knowledge on the part of S. M. Butler, Secretary of the Automobile Club of America, it certainly spoiled what would have otherwise been a success, at least as far as the timing went.

After seeing the finish made by the Stevens-Duryea, it is my personal opinion that the corrected time falls very much short of showing what Mr. Nestman accomplished. If he did not equal Mr. Stewart's time, I am sure he came very close to doing so. I am in receipt of the following so-called official times, which I append. Unfortunately, Harlan W. Whipple, a man everyone wanted to see make a good showing, was put out of business through Harry Wells' Prescott, which accidentally backed into Mr. Whipple's machine, smashing his radiators, while at the same time putting the Prescott out of commission. In future climbs each contesting vehicle should carry an expert and independent official timer, and then there would be a check on promiscuous, as well as on the electric timing. The results were:

	H.P.	Weight.	Time.
Locomobile, W. J. Stewart, steam.....	4½	750	3.36¾
Oldsmobile, I. D. Plank, gasolene.....	4	800	6.06
Locomobile, W. J. Stewart, steam.....	4½	750	2.58¾
Duryea, Dr. H. Power, gasolene.....	6	900	4.26
Winton, C. E. Proctor, gasolene.....15		2000	4.52¾
Stevens-Duryea, O. P. Nestman, gasolene.	8	1050	3.45
Long Distance, H. M. Odeoine, gasolene.	7	1400	5.20
Knox, L. J. Wyckoff, gasolene.....	8	1400	7.15
Long Distance, J. G. Dale, gasolene.....	7	1400	4.49¾
Mobile, E. P. Washburn, gasolene.....	4½	750	3.08
Prescott, H. M. Wells, gasolene.....	4½	1400	3.43¼

One of the most interesting things in the New Testament, which will be found in the 13th chapter of Matthew, is the parable in regard to the sower who went forth to sow. This parable can be made applicable to nearly every walk of life, be it business, political or personal. Advertisers of a thinking turn of mind who do their advertising after thinking have, I am sure, given the parable of the sower a good deal of credit. Advertisers are pre-eminently sowers. When a man sows, he naturally expects to reap, but if he exects to reap from poor or bad sowing, then he has not read the parable aright. We are told that a sower went forth to sow and it does not matter what he sowed, but as he must have sowed in Palestine, he possibly sowed wheat. We are told that some of the seed of the sower fell by the wayside and the fowl of the air devoured it. There was no reaping from that seed, at least not by the sower. We are also told that some fell among the thorns and the thorns sprang up and choked it. There was no reaping from that seed. We are further told that other seed fell upon stony places, and, of course, having no soil to take a root in, the sun burned it up. But other seed fell upon good ground, and like all seed sown in good ground, it grew and brought forth fruit to a hundredfold.

Advertisers who sow their advertising seed in thorny or stony places, or by the wayside, get no results, but the careful advertiser who sows in fertile soil, like THE AUTOMOBILE MAGAZINE, for instance, never fails to reap a bounteous crop. A lot of advertising seed should never have been sown, while some should have been sown which was not sown. Programmes, circulars, mushroom publications are among the most undesirable places to sow advertising seed.

There are other places where seed could be sown to advantage and while not strictly advertising it amounts to the same thing in the long run, although it may not be bringing as much of a crop as if sown in a proper place. If an advertiser has no seed, i. e., money, to sow in advertising, the next best thing for him to do is to treat the advertising solicitor with courtesy. In that way he is doing some sowing with no expense and without much labor. We of the advertising soliciting fraternity could tell a good many tales,

and do tell a good many about the differing treatment received by us at the hands of the wise and of the unwise manufacturers. Advertising solicitors are very human and they are liable to produce a bountiful crop, in kind according to the treatment meted out to them. Many a firm has failed through discourtesy to traveling men and many an order has been spoiled through the want of diplomacy and courtesy. While I believe in a lot that I read in the Bible, I do not always believe in the injunction, "If thine enemy smite thee on the right cheek, turn to him the left also." You will excuse me if I do not follow all this praiseworthy advice and meekly submit to pounding on the reverse cheek without at least attempting a cross counter.

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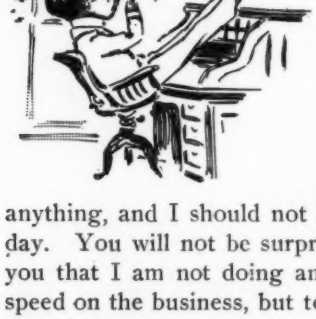
One day I called on a concern in Philadelphia for THE AUTOMOBILE MAGAZINE. I gave the office boy my card, he promptly returned with the information that the manager was too busy to see me. The manager, an effeminate-looking person, I could plainly see through a glass partition, with his legs elevated on his desk complacently smoking a cigarette. That must have been one of his busy days. The concern, which is thus business mismanaged, is doing no business to amount to anything, and I should not be surprised to hear of its failure any day. You will not be surprised, I imagine, if in confidence I tell you that I am not doing anything to check that "busy" person's speed on the business, but to the contrary I have aided not a little in making smooth and slippery his downward path.



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There have been many attempts to make what is known as a speed measuring device, but the task must be a hard one, judging from the failures. New York will please claim the record of producing what is declared to be the first perfect speed measurer. Joseph S. Jones, the man who makes it, told me the other day that the instrument can be attached either to the steering knuckle or to the dash. The speedometer is made in several sizes and prices, and the demand shows it is a success. There is one feature in the advertising of this speedometer which I think has been overlooked, and that is the calling of attention to the possible and probable immu-

nity people who use it will enjoy from police annoyance. Most of the police are but indifferent judges of peace and their Waterbury watches seem often to be at fault, so the speedometer will be found a handy thing to prove the watchful guardians of the peace to be liars without fear of contradiction or the club. A speedometer should also be a decided help in regulating the speed in crowded thoroughfares. It would seem that Mr. Jones is a real benefactor and the profit alone is not only Mr. Jones' due.

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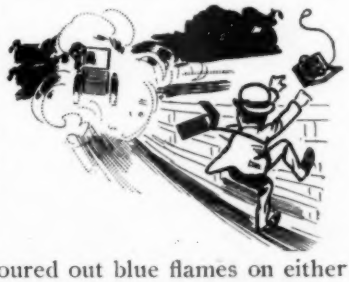
I am not courting death, even though I do carry a fair line of insurance. I hope the dark angel will allow me to peep into at least the second quarter of this century in order that I may see some of the many wonderful things that are then to be. But I must confess, that the dare-devil, Barney Oldfield, had me guessing the other day at Detroit, where he was coming down the straight of the Detroit mile track at better than a mile a minute, while the motor poured out blue flames on either side with reports which sounded like 30-inch guns in active business. It was my intention to have taken a photograph of the performance, but when Oldfield passed me in his practice, I found myself climbing a fence after a sprint which Billy Metzger assured me was equal to the record for the distance and the method of locomotion I was using. It was true I got a picture from a safe vantage point behind a tree, but when I came to develop it, I found I had a very nice picture of trees, but nary an Oldfield or a machine. That Oldfield-Cooper machine is one of the most terrifying things that anyone may want to meet. If ever Cooper carries out his intention of using it to give exhibition performances at fairs, he will have to provide a grand stand in the next county for the county people to view the performance from, or else he will drive everybody from the fair grounds, for he would surely think that Dewey was chasing the Spanish fleet around the track.



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Out in Cleveland there is a concern which, without making much noise in automobile manufacturing, can be confidently reckoned upon as being right at the front when it comes to turning out a first-class automobile. The firm is the F. B. Stearns Company, who are con-

stantly increasing their manufacturing facilities down on Euclid avenue and Lake View, where, luckily for them, the company owns sufficient ground to spread out yet a great deal more. Mr. Stearns is the son of a Cleveland banker, and, although a young man, he has been responsible for many things when it comes to designing and constructing a good motor car, although he is quite modest about laying any claims thereto. The Stearns product will be seen at the New York show, and if the new touring car doesn't occasion a good many "Oh's" and "Ah's" when it is seen by the critical fraternity, then I don't know anything about what a winner of public favor is. W. J. McCrea, the sales manager, writes me that the new car is a revolution in American automobile designing and constructing, and has more good features, more style and more luxury than any of its competitors. Having seen the touring model in the rough, I am inclined to share in Mr. McCrea's enthusiasm.

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I am glad to see the interest which is being developed in the plan to send some of our best drivers to Europe to try for the Gordon-Bennett cup. Among the representatives of America I should like to see that prime favorite, Percy Owen, of New York, and, I hope, of course, to see Alexander Winton go, too, if it is possible, since he is our pioneer cup competitor. If Detroit sends Barney Oldfield the foreigners will find in him a foeman worthy of their best speed and nerve. Of course, the unlucky Foxhall Keene can be depended upon to take a shy at it, and perhaps, Messrs. Vanderbilt and Harkness and others of the fast flying brigade may be in line. I hope so at any rate.

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The Whitney Manufacturing Company, of Harttord, Connecticut, are known everywhere as the makers of reliable automobile chains. Clarence E. Whitney, the manager of the concern, is a son of Mr. Whitney, formerly of the Pratt & Whitney Manufacturing Company, known all over the world as expert producers of machine tools. The prestige of the name of "Whitney" has undoubtedly been of value to the keen young man who has steadily pushed his product to the fore in the chain-making business. The best proof of which is that the orders for the Whitney product received up to date for 1903 promises to tax the capacity of the Whitney Manufacturing Com-

pany, which is no small affair. The chains made by the Whitney people are of roller, block pattern and the Wizard chains and sprockets. The Wizard is creating considerable talk since, as it is something entirely new in the line of power transmitters.

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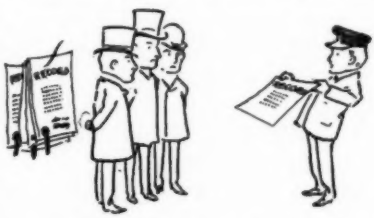
What's this, about the Barney Oldfield-Tom Cooper machine records not being accepted? Somebody has got a few more guesses coming about those records, particularly since they were timed by members of the Detroit Automobile Club, which is a member of the National Automobile Association. But even if all this was not so, the name of such a man as William E. Metzger on the list of timers will remove any doubt as to the correctness of time. Why a paper which is published supposedly in good faith should attack these records is beyond my ken unless it be that the publisher expects to find an echo to his screed in Cleveland in the person of Alexander Winton, who, I am sure, is too good a sportsman to wish to deprive Barney Oldfield of his honors. These records were made on a track that is not considered fast, despite which they are world's records for a circular track beyond a doubt. In company with Mr. Metzger, I saw Barney Oldfield in practice spins recently at Detroit, and it is doubtful in my mind if this country can produce outside of Winton a more nervy driver than the same Oldfield.



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It is always a pleasure to record progress, and in this instance I want to throw a bouquet at the owners and managers of the Ardmore Autocar factory. The Autocar from its first appearance seemed to take with the automobile public, and the 1902 model was so far in advance of the one of 1901 that it promptly became established as one of the very best medium-priced automobiles on the market. The makers of the Autocar could not have selected a more charming place for a factory than Ardmore, which is a suburb of Philadelphia. Like nearly all of the alleged slowtown suburbs, Ardmore in the summer time is a veritable bower of beauty, right in the midst of which beauty is located the Autocar factory. Ardmore is very English in appearance. Directly opposite the Ardmore factory is the old and venerated Red Lion Inn, which in itself is as decidedly English as anything I have ever seen outside of Great Britain.

The founders of the Autocar business are the three Clarke brothers, formerly of Pittsburg, all young men of more than average ability. The designer of the engine, the president of the company, is now at his winter cottage in Florida, taking a well-earned rest. These same Clarkes, although born with a proverbial silver spoon in their mouths, inherited the commercial instinct, and at least one of them much mechanical genius. Plenty of capital, which is as much needed a requisite in the automobile business as it is in any other, is at the demand of the Clarkes, and no small portion of it will go into the new factory addition, which will increase the Autocar output to twenty machines a week.

Last spring the Autocar company decided they wanted a good superintendent, a man who had a thorough knowledge of men and of machinery, one who could get the work out and get it out right. It was the company's good fortune to get John Spiers, a man who had considerable experience as a manufacturer himself, and was known as an able handler of men.

In their careful planning the Autocar company have wisely seen to a first-class publicity department, which is presided over by W. A. Richwine, an old Philadelphia boy, who was at one time a branch house manager in Washington and Philadelphia, and who, profiting by his own experiences in business, is doing exceptional work in his new position. The note in the November issue of THE AUTOMOBILE MAGAZINE, advising manufacturers to send out to each purchaser a sort of A B C primer, has been taken up by the Autocar company, with the result that Mr. Richwine has brought out a clever little book which tells all about the Autocar, its component parts, management, care, etc. The story, as Mr. Richwine tells it, is calculated to make the troubles of a new beginner in automobiling almost nil.

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Smith & Mabley, the well-known Seventh avenue (New York) manufacturers and importers of French automobiles, have just sent me a very pretty little booklet of artistic design, which does credit to the taste of Carleton Mabley. Here is a concern which has set a very high standard in automobiles and its business dealings with automobile purchasers. The influence of such a concern upon the American trade has been of an elevating and very satisfactory kind, and it is doubtful if any firm has done more in this direction than Smith & Mabley has. Of course, it is well known that the majority of buyers from this firm are of the millionaire society class, but the concern is too broad in its business ideas to confine themselves to any one class

of patrons, and so it comes to those who have not a million, but do have enough to purchase a first-class machine, with one which has all the good points of its imported French brother minus the 40 per cent. duty which he has to pay to become Americanized through ownership.

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If you do not know George H. Day, president of the Electrical Vehicle Co., of Hartford, you should try, though it won't be easy, to make his acquaintance and get a grip of his robust and manly hand. Having had the pleasure of knowing Mr. Day for many years and being aware of the vast business interests of which he is the directing and controlling force, I was delighted to note in his appearance at the Hollanden in Cleveland the other day every evidence of a sure return to that vigorous health which was his a few years ago. In response to my congratulations upon how much better he looked, he cheerily responded: "Things are coming my way now, and possibly my health feels it."

In the good old summer and winter time years ago, Mr. Day was the man that many inventors and would-be inventors sought. They came to him full of hope, each believing that he had something that would revolutionize either the building or the designing of bicycles. All this was when Mr. Day was general manager of the Pope Mfg. Co. I met these same inventors in many States, and in many villages and towns, and by them I was hundreds of times escorted to secret garrets or carefully locked rooms and there heard the story of their hopes. I trust Mr. Day will forgive my having told them that there was one man who would listen to them, and he was George H. Day, gentleman, of Hartford, Conn. If Mr. Day did not buy their inventions, he always dismissed them so courteously that they were invariably glad they had called on him, and were sure that they had at last met a man of sympathy and a gentleman. Mr. Day has brought his automobile interests through troubled waters to smooth sailing and his many frineds will rejoice at his doing so.

Automobile insurance has evidently commenced to take hold of the people, as my old co-worker, Dixie Hines, of the American Estates Managing Co., tells me that his firm has closed insurance policies with automobilists from Maine to Mexico. Mr. Hines' company represents the Aetna of Hartford, which company has done the bulk of automobile insurance up to date. The rates for this class of insurance are now more reasonable, and a good deal of credit must be given to the American Estates Managing Co. for furnishing various companies with statistics proving that the automobile is not the grave risk some people would have us believe. Of course, it is the actuary of the insurance company who finally decides the rate and the risk, but that individual has received many tips from Mr. Hines. The rates for the exhibits at the New York show are as follows: Ten days, $3 per thousand; and Mr. Hines believes that the exhibitor will do well to insure before he exhibits, as the companies may decide to advance rates when they see the large size of the New York show exhibit.

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The Conrad Motor Carriage Company, of Buffalo, are to be congratulated in securing the services of E. B. Olmsted, who was formerly sales manager for the E. R. Thomas Motor Company. Mr. Olmsted will have charge of the sales department for the Conrad people, and has also been elected secretary of the company, a position he is well qualified to fill. Mr. Olmsted is a hard worker, and an intelligent one as well, and among other things he prizes is a letter from his former employer which he showed me the other day, wherein Mr. Thomas with reluctance accepted his old employee's resignation, wished him well, and asked him to accept a very handsome present he sent him. This action on the part of Mr. Thomas was gratifying to Mr. Olmsted and the president of the Thomas Company honored himself in thus acknowledging the services of so capable a man as Mr. Olmsted.

The Conrad people will be distinctly in it in 1903, as they are squaring away for a large business. They are building several new types of steam carriages, including trucks, delivery wagons, steam touring carriages and runabouts. The truck is one of the finest things I have ever seen, and is to be delivered in St. Louis, and is to be followed by a score of others, all for the same party. The gasoline touring tonneau, by the Conrad people, is a fine-looking 12 H. P. machine, and is said will be listed at a price that will cause general comment, as the price of such vehicles in the

past has been considerably higher. Mr. Conrad, the general manager of the company, is one of the cleverest mechanical engineers in the city of Buffalo, and is a business man of exceptionally good rating. Mr. Peugeot, the treasurer of the company, is the financial end of the concern, which as everybody knows, means a good deal. Mr. Peugeot is enthusiastic over the prospects of the company, and is only doubtful about the capacity of the company's plant to keep pace with the demand, but he cheerfully remarks that the company has some spare land for future expansion when the time comes for it to expand.

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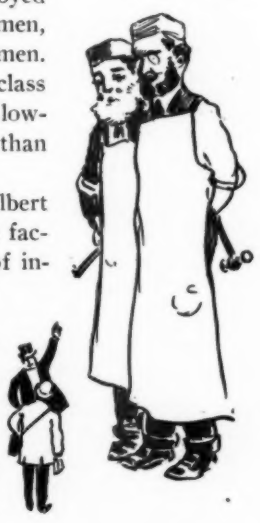
Supt. Murdoch, of the Oswego Steam Carriage Boiler Co., said to me recently something which has caused me to think considerably. He said that his company employed men only and that they were high grade men, which means intelligent, well-behaved men. There is no doubt in my mind that first-class work cannot be obtained from boys or low-priced, shiftless men in a factory no more than in office.



A few years ago, I was taken by Col. Albert A. Pope through the great Columbia Bicycle factory at Hartford, and among other things of interest, he said was that he was a firm believer in environment. A workman's surroundings, and his pay were responsible for either his good or his bad work. The Colonel was so positive of this that he provided a sort of recreation establishment at the factory for the employees to use during their lunch time, and there he served them with coffee and eatables at cost.

While going through the factory, the Colonel in his enthusiastic way grasped me by the arm and said, pointing to one of the men: "Senator, look at that man over there! Does he not look fit to be a United States Senator?" As we passed the man, who saluted respectfully, it was easily seen that the Colonel's enthusiasm was not misplaced. Cheerful surroundings in the shape of bright homes, decent wages and fair treatment are the germs that produce good work and good workmanship. "By their works ye shall know them" is as applicable to automobile manufacturing as

to anything else. You cannot expect good work in a dirty, slovenly factory, where low grade men and boys who have to live in small rooms in the neighborhood of saloons are employed.

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If the automobilist of to-day is not proficient in the theory as well as in the practice of motovehiclism he has none to blame but himself. The publishers have been generous indeed to the man who wants to know the how and wherefore of the vehicle he uses. Three works just from the hands of three presses of their publishers are before me as I write. The first is "The Automobile," a book as comprehensive as its name. The volume is a translation from the French of Gerard Lavergne's famous "Manuel Theoretique et Pratique de L'Automobile Sur Route," and is in many ways an improvement over the original, particularly in its typography, illustrating, etc. Much in this book is excellent, particularly the chapters on carburetters and motors, transmission gear, axles and steering gear, brakes, springs and frames. The comparison of steam, gasolene and electric motors is mainly M. Lavergne's, and is exhaustive. He sums up as follows: Steam for heavy loads, gasolene for long distance touring, electricity for town cars. An admirable index forms a valuable feature of the book—one wanting in the original treatise. David McKay, Philadelphia, is the publisher; the price is $4.50.

"Motor Cars and the Application of Mechanical Power to Road Vehicles" is a work in which the author, Rys Jenkins, has traced the evolution of the mechanically propelled vehicle from the Nuremberg carriage of 1649 down to the very latest production of to-day. The 370 pages and 100 illustrations of this book unite in making it a history of the automobile which is as interesting as it is valuable. James Pott & Co., New York.

Passing from these two valuable reference works to the remaining volume, we find ourself as confronted with the first of a long line of automobile novels which will surely follow this one, which its authors, C. N. and A. M. Williamson, have seen fit to call, with an apparent disregard for the possibilities of automobile nomenclature, "The Lightning Conductor." The story is one of an American girl and her aunt, who undertake to tour Europe alone in an automobile. Of course, the inevitable break-down occurs, likewise the hero appears and rescues the maiden and her aunt. Between the first chapter, which begins "My dear shiny-headed angel," and the last, which closes with this telegram: "Congratulate me. It's all right—Jack,"

the story runs in satisfactory fashion. Henry Holt & Co., publishers.

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There is a man in Newark, New Jersey, in the neighborhood of the D., L. & W. depot and close to the Passaic river, who is building an automobile, or as he calls it, an autoboat, who says he really expects to cross the sea in his invention. While skirmishing around one day in the neighborhood I ran across the man (who was very earnest in his demand that I promise not to write anything or tell anything about his invention, or give his address to anybody). I am trying to keep faith with the man and will simply say that he is building what looks like a picture of some of the descriptions of Noah's ark. This autoboat is to all intents and purposes a boat of the Cape Cod cabin cat type, and he purposes equipping it with a motor, which is to be of at least 35 H. P., the length of the complete boat to be in the neighborhood of forty feet over all. The inventor declares he will use the John Jacob Astor turbine idea, but in addition he will also equip it with the ordinary screw propeller. The autoboat has been given a trial at night on the river, and it is said the speed developed was something like twenty miles an hour, still with some improvements the inventor expects to get at least thirty-five miles an hour out of the affair. His first trip is planned from Halifax, Nova Scotia, to Milford Haven, Wales, which is the shortest sea distance between this country and England, there being less than two thousand miles to be traversed. The inventor says that he can do this in moderately fine weather in three days and three nights. Maybe he can and then, again, maybe he can't. I don't know, neither does he.

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Considerable comment and criticism has been leveled at the officers of the National Automobile Manufacturers' Association of late. Among those who think that the executive officers are not thoroughly representative are a good many of the real successful automobile manufacturers in the middle and western States. These people say that the present executive officers (with a few exceptions) have been chosen from among men that are not numbered among the successful men of the trade. The critics point to the fact that in the recent New York and Boston run not one of the leading officers of the association succeeded in getting a single

vehicle made by them on the list of winning carriages. They further charge that the president of the association is not in touch with progressive automobile building and that his board of officers is a sort of private ownership affair.

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The friends of Henry C. Cryder, manager of the Automobile Company of America, will be glad to learn that the affairs of that company are now rapidly being placed in A1 condition. A transaction of much importance has been completed by Mr. Cryder recently, whereby the consolidation of the Pan-American Automobile Co. and the Automobile Company of America was accomplished, and the entire management of the combined concerns will be announced shortly, under a new name, which is as yet not known. Mr. Cryder has battled earnestly to bring the matter to a focus, and to place the affairs of the old company on a first-class footing. It must be remembered that the disorganization and deplorable condition of the Automobile Company of America had been accomplished before Mr. Cryder took hold. Just as he was getting things into shape death deprived him of the splendid support of the late Mr. Russell, a fine young business man, who died suddenly. Mr. Cryder has now once more, with the assistance of Mr. Boynton, brought order out of chaos. The new vehicle, which will be turned out of the factory in New Jersey, will be almost identical with the famous French machine, the Rochet-Sneider. The price will be $5,000. The writer saw the machine the other day, and has no hesitancy in pronouncing it a Tiffany in workmanship. The motor and gear will surprise those who see it at the New York show. The entire machine will be made in America, the castings for the motor being exceptionally fine and the best product of the foundry yet seen, as that smoothness of finish seen on French motor castings has seemingly been duplicated.

THE SENATOR.

In More Modern Language

"People are not all alike, and what suits one may not please another."

"Right you are! What is one man's automobile is another man's juggernaut."

Cheap and Pleasing

"I think I'll buy one of these big foreign racing cars?"

"How in the deuce can you afford to buy any such thing?"

"I can't; but I can afford to think."

The King and His Courtiers

THE horse, that noble animal for which Richard, in his moments of terror on the battlefield, offered to exchange his kingdom, has not yet become so neglected in the commercial world that the only attention he attracts is for the one week during every year, when he is placed on exhibition. This was what the enthusiastic automobilists of a year or so ago were fond of predicting would by this time have become the fate of one of the noblest animals God ever gave to man.

It is no passing greatness that causes beautiful women to adorn themselves in their costliest jewels and bashful young men to wear their largest chrysanthemums while they are viewing the horse in the week in which he asserts his sovereign sway over wealth, beauty, society and man.

But why is the horse still king? For centuries and centuries the most noble and most useful of burden-bearing beasts, why has no other claimant ever threatened his kingship? The camel could travel across the deserts and remain longer without water; the elephant could push, carry or draw a larger load; the ox was more patient, and the despised mule more entertaining; but the horse was and is the noblest old Roman of them all. Always ready, always willing, the horse seems to have been placed upon earth for the special service of man. He saw improved machinery push even his human brother aside, but no one anticipated his sovereignty would be threatened.

In a sad moment in his existence the locomotive was invented. That was the beginning. The horse-car gave way to the cable, then to the electric, and evil days came unto the equine emperor. And now the automobile!

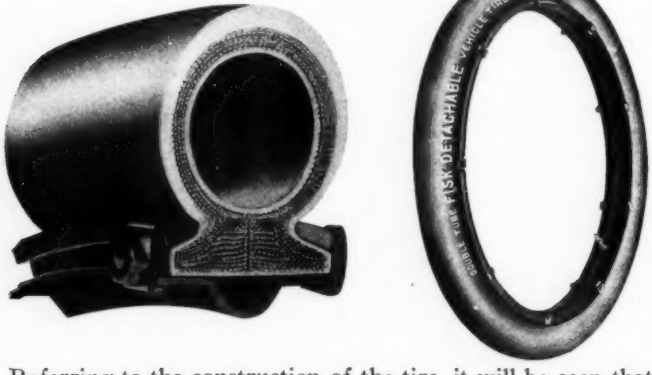
In another hundred years, or less—because events happen with incalculable rapidity now—may be that grandfathers will entertain their descendants with wondrous stories of the days when horse power was really what its name betokened, and men and women, too, rode upon the backs of animals, and the little ones may wonder at the great inventive genius of their ancestors. But until all this comes to pass, the horse is still king, a bit less autocratic, as all kings need must be in these days of democracy and mechanics, but still a king for all of that.

A Tire Full of Merit

FROM a section of the Fisk double tube detachable automobile tire sent to this office it would seem that this particular tire will create much interest wherever seen, as the construction will make it appeal to those who want an absolutely fast, resilient and safe automobile tire.

The method of attaching the new tire is original, while at the same time it makes it an absolutely safe tire.

The base of the tire is perfectly flat, and the projecting sides are clasped by a strong T section rim through which a bolt and lock nut are placed. The tire is thus locked on so that it cannot possibly come off whether inflated or deflated. The fact is the tire cannot blow off or creep on the rim until the clamp bolts are removed. This in itself is a sufficient recommendation to guarantee the new tire a hearty welcome.



Referring to the construction of the tire, it will be seen that the traction or surface contact point of same is narrow. In other words, there is not overmuch of the tire on the ground; this insures it being an easy running tire and one whose traction resistance will be very light.

As an illustration of the ease with which the new Fisk Double Detachable Tire can be taken off and put on was shown the other day in Detroit, when a boy who had never seen the tire before, removed and replaced it in something like a minute. This good point of the tire, to say nothing of its other merits, will, of course, appeal to all automobilists who have ever had to make a temporary repair on the roadside.

The method of removing this tire is such that the outer case when off the rim assumes the same position as when attached, so that the operator can insert the inner tube without fear of it being misplaced, pinched or wrinkled while the shoe is being attached. There are few tire users who do not know what the pinching of an inner tube means to their sorrow.

This tire will be seen at the Fisk Rubber Co. exhibit at the New York show, January 17-24, or further details can be obtained by writing the Fisk Rubber Co., Chicopee Falls, Mass. * * *

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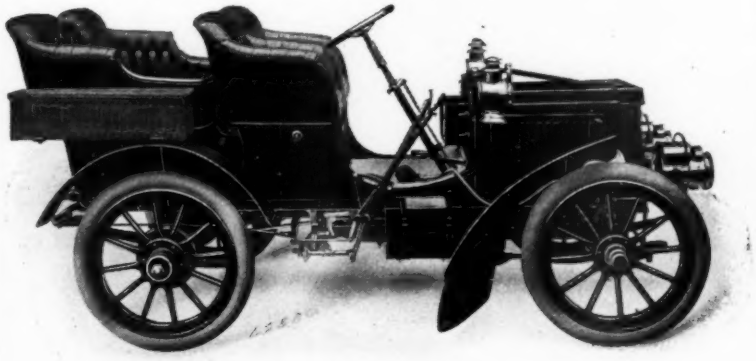

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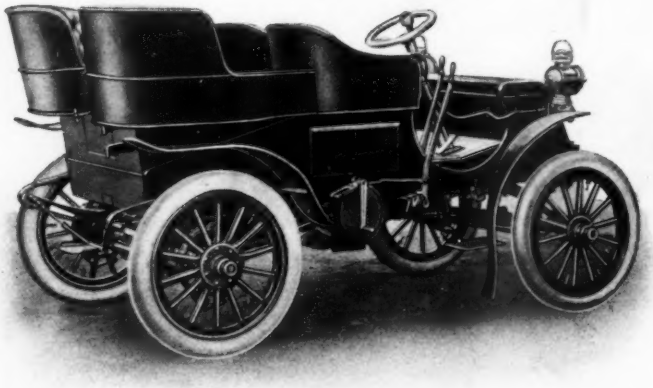

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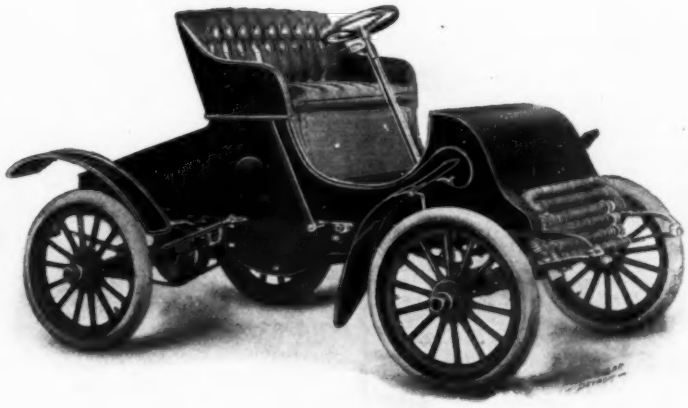

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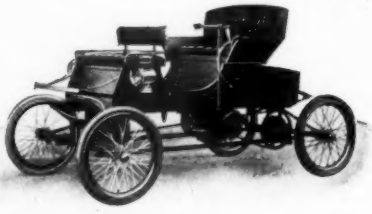

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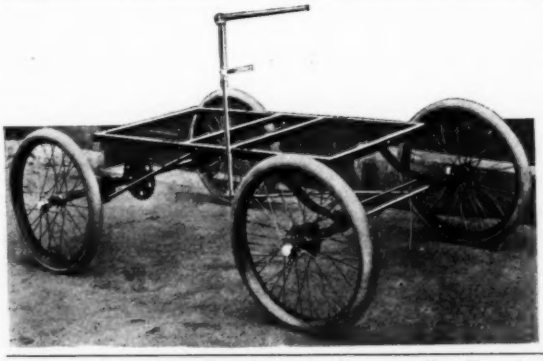

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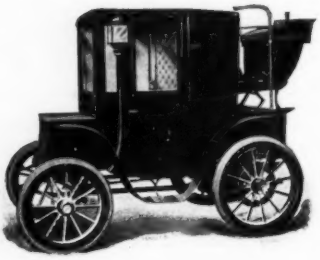
Two New Electric Vehicles

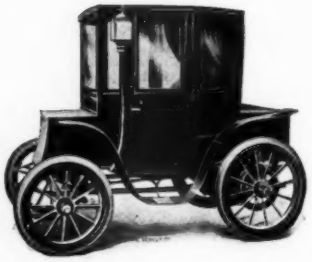
Columbia Rear Driven Coupé



COMBINES on smaller scales the distinctive features of both the Brougham and the Hansom types. Furnished to meet every requirement of elegance and luxurious taste.

Columbia Inside-Operated Coupé

FOR PHYSICIANS and others requiring a securely closed-in automobile adapted to comfortable use in all weathers. Dispenses with necessity for separate driver.

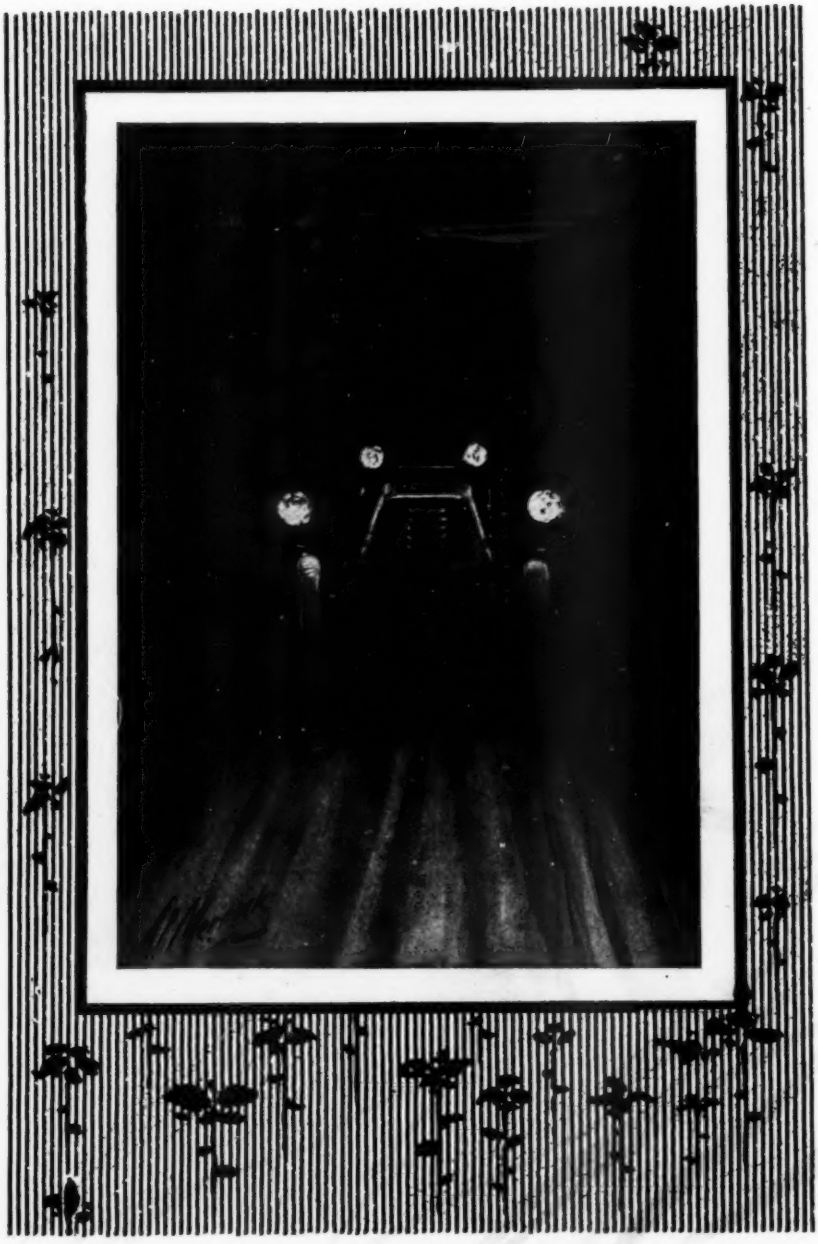


Complete detailed information concerning these vehicles will be sent on request; also catalogue of our full line of

COLUMBIA ELECTRIC AND GASOLINE AUTOMOBILES

We shall exhibit at Madison Square Garden, New York, January 17-24, and at the Coliseum, Chicago, February 14-21

ELECTRIC VEHICLE CO., HARTFORD, CONN.

New York, 100 Broadway. Boston, 43 Columbus Ave. Chicago, 1421 Michigan Ave.

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